DOCUMENT RESUME

ED 149 763 IR 005 577

TITLE	The Continuing Challenge. The Program for Innovation and Improvement in the Instructional Process.
INSTITUTION	California State Univ. and Colleges, Los Angeles. Office of the Chancellor.
PUB DATE	Jun 77
NOTE	220p.
EDRS PRICE	MF-$0.83 HC-$11.37 Plus Postage.
DESCRIPTORS	Basic Skills; Colleges; Computer Oriented Programs; *Curriculum Development; *Diffusion; *Higher Education; *Innovation; Instructional Materials; Instructional Media; *Interinstitutional Cooperation; Performance Based Education; State Universities

ABSTRACT

This is the second major report for this program, begun in 1971 to improve the educational offerings and opportunities available to students in The California State Universities and Colleges (CSUC). The objective has since broadened to include a program of professional development. Other concerns are the acquisition of basic skills, response to a steady or declining enrollment, intersegmental cooperation in innovation, and joint projects with community colleges and high schools. Data on nearly 2000 innovative projects are now available to the faculties of the University of California and CSUC. One section of the report deals with single campus projects, multi-campus projects, and campus-administered small grant programs. Another deals with professional development in the CSUC, a survey of CSUC Writing Projects, and a progress report on the performance based credit by evaluation system. Appendices include abstracts of innovative funded projects for 1972-77, a list of mini-grants in 1975-77, and publications of new program development and evaluation from 1972-77. (VT)

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THE PROGRAM FOR INNOVATION AND IMPROVEMENT IN THE INSTRUCTIONAL PROCESS

THE CALIFORNIA STATE UNIVERSITY AND COLLEGES

New Program Development
and Evaluation
Office of the Chancellor
June 1977

IR005577

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Foreword

This is the second major report to be issued on the Program for Innovation and Improvement in the Instructional Process. Begun in 1971 with the encouragement and support of the Board of Trustees, the Legislature and the Executive of the State of California, it has compiled an exemplary record in encouraging constructive and creative change in The California State University and Colleges. It has attracted national and international attention. Commentators on the national higher education scene have praised it, describing it as a prototype for other multi-campus systems.

The overriding objective of the Program, simply stated, is to improve the educational offerings and opportunities available to the students of this system. In seeking that objective we have stressed efforts to test new approaches to teaching and learning, recognizing that different people learn best in different ways. These approaches emphasize achievement rather than time spent, and place a greater responsibility on the students for their own education. We have made no attempt to replace one orthodoxy with another. Instead, through these projects we have sought to increase the options open to students so that they might select those most congenial to their own learning styles and objectives.

A program for innovation cannot itself fail to innovate. The Program has undergone a number of changes in its nearly six years. It has been broadened to include a now well established program of professional development. Credit by evaluation opportunities for students enabling them to demonstrate they possess knowledge that otherwise would be gained through classroom instruction and gain academic credit for it have been expanded. Areas of special concern or opportunity have been identified and projects dealing with them particularly encouraged. An example is the major effort in the past two years to develop new and more effective means of assuring our students possess needed basic skills. Programs now underway that are designed to maintain or enhance the quality of our educational offerings in the face of steady or declining enrollments is another. Intersegmental cooperation in innovation has been increased. Joint conferences with faculty and administrators of the University of California, the community colleges, and high schools have been held dealing with issues of common concern. Joint projects have been begun. Data on nearly 2,000 innovative projects in the University of California and The California State University and Colleges have been placed on computer and are now available to the faculties of both systems.

The value of what has been accomplished is demonstrated in part by the fact that nearly 85% of all projects funded have been continued by the host institution after special support has ceased. This very high rate is testimony both to the dedication of our faculty and campus administrations and to their willingness to make sometimes difficult changes so that the best possible learning environment may be provided their students. Because these projects are faculty-initiated, must be approved by the campus before they are begun, and are rigorously evaluated, those which prove successful are moved into the academic mainstream of the institution.

As you read this report I believe you will conclude, as I have, that the Program is contributing significantly to the development of a more effective and efficient program within The California State University and Colleges, one that has importance well beyond our nineteen campuses. It would not be possible to list all those who have made this possible. I would like to make special mention, however, of the staff of the Division of New Program Development and Evaluation who have the overall responsibility for administration of the Program; the Campus Coordinators for Innovation who have given their faculties and this office invaluable assistance in the development and implementation of projects as well as advising on Program priorities; and the members of the Task Force on Innovation, those faculty, students, campus presidents, and central office administrators who have provided advice on program objectives and proposal selection over the years. Finally, I must especially commend those project leaders and their associates without whose efforts no program could exist, let alone succeed. It is, in the final analysis, their program and their successes that are reported in the pages that follow.

Glenn S. Dumke
Chancellor

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Acknowledgments

I take pleasure in acknowledging the valuable assistance of several persons. Deputy Dean John M. Smart; special consultants, Edward M. White and William Stryker; and David H. Ost, Director of the Center for Professional Development, contributed major portions of the text. In a larger sense, the project directors who provided leadership in particular programs deserve a lion's share of credit for the information included here. Without them there would be far less to say. The Campus Coordinators for Innovation who act as primary liaison for the Program on our nineteen campuses have provided invaluable help, both to project personnel and to this office. Their names are listed in Appendix G. Special thanks also must be tendered to Toni A. Howard who served for over four years as writer, communicator, and Program assistant. Finally, Linda Bunnell Jones has labored long and diligently to bring a sense of style and coherence to this report. Any failures are ours, not hers.

David H. Provost
State University Dean
New Program Development
and Evaluation

GLOSSARY

Following is a list of terms which may not be familiar to the reader or which have specific meanings within the context of this document:

Advanced placement – *Programs for high school graduates in which they are placed at advanced levels on entrance to college. There are also the Advanced Placement Examinations of the College Entrance Examination Board. High school seniors passing these examinations receive college credit in appropriate subject areas.*

CLEP – College Level Examination Program of the College Entrance Examination Board and Educational Testing Service. *Examinations offered are used for credit-granting purposes by some institutions, normally for freshman and sophomore work. The CLEP program includes five General Examinations which are not equivalent, as a rule, to specific courses. Some thirty Subject Examinations are also available.*

Cost-benefit analysis – *A means for comparing resources (cost) of a specific project with the results (dollar benefit) likely to be obtained.*

Cost-effectiveness analysis – *Measurement of the extent to which resources allocated to a specific objective under each of several alternatives actually contribute to accomplishing that objective, so that different ways of attaining the objective can be compared.*

Evaluation – *The purpose of evaluation is to compare actual accomplishments with desired outcomes in order to improve performance. Important questions to be answered are (a) Which objectives were achieved? (b) Which objectives were not achieved? (c) What factors contributed to the accomplishment of specific objectives and the failure to accomplish other objectives? (d) What should be done to improve future performance?*

Faculty development – *Programs to increase faculty skills in teaching, student evaluation, use of media in instruction and communications abilities. In this report, the term does not apply to programs intended to increase faculty academic knowledge such as assistance to faculty to complete the Ph.D. or retraining programs.*

Independent study – *Used in this report to refer to programs which permit a student to pursue the great majority of coursework on an independent basis, usually as a part of a group guided by several faculty.*

Instructional development – *The systematic planning and evaluation of instruction based upon explicit measurable objectives. The process includes pretesting students with respect to skills enumerated in the objectives, selecting specific learning activities related to objectives, and evaluating the effectiveness of the instructional sequence based on students' attainment of the prespecified objectives.*

Innovation – *As used in this report, innovation applies to substantive changes and reforms in instructional method, uses of student and faculty time and the process of learning. An instructional approach new to a campus or discipline can be innovative even if tried elsewhere or in another discipline.*

Instructional television (ITV) – *Campus-based television programs and services usually operated on a closed-circuit basis. Educational television (ETV) normally is applied to open-circuit and cable programming offered by publicly supported stations.*

Learning assistance center – *A center at which students may receive special help in overcoming learning problems and improving basic skills. Tutors, counselors and mediated self-learning materials are typically available in such centers.*

Learning resources service or center – *A term in increasing use which is applied to audio-visual, television, instructional design and evaluation services combined or coordinated on a campuswide basis.*

Modularized course – *A course divided into units. Usually each module is created around specified learning (behavioral) objectives. Students are tested on completion of a module, and must pass in order to move on to the next. Some modules may require effort equivalent to one student credit unit (SCU) per module. Others may be the equivalent of a lesson completed in a few hours of work.*

Organizational development – *A process by which an organization examines its processes, procedures and the components of its environment for continuous change and revitalization.*

Personalized System of Instruction (PSI or Keller Plan) – *Approximately equivalent to modularized instruction, PSI is a method first developed by Fred Keller in which courses are divided into units, students cover each unit with tutorial assistance, and after demonstrating "mastery" of the unit, move on to the next.*

Self-pacing – *Students moving at their own pace through a curriculum. Often tied to modularized courses, continuous testing, etc. Self-reliant study and individualized study are alternative terms.*

SOCRATES – *A copyrighted acronym used for the computerized test item data bank system and computer program in use within The California State University and Colleges.*

Time-shortened degree – *A degree program in which a student may complete his work in less time than would otherwise be the case. This may be achieved through credit by examination, redefinition of curricula, early entrance into college from high school, or program acceleration through self-paced learning.*

The Evolution of the Program

by David H. Provost

In a changing world education cannot be static. As important as the transmission of ideas and appreciations of the past may be, the recognition of and the response to change are the hallmarks of modern, quality education.

Response cannot be solely in terms of new information incorporated into existing courses or even in the development of new courses or majors. These are customary innovations found in any respectable educational institution. Nor is response to come only through what have been termed new delivery systems such as television, the computer, and other equipment useful to learning. Another and unifying dimension must be included: new knowledge about how learning takes place.

Much has come to light about the processes of learning in recent decades. We now recognize what should have been a rather elemental truth, that people learn best in different ways and at different speeds. For some, the more traditional classroom experience with its fifty-minute lectures and regularly scheduled examinations provides the optimum environment. For others, the use of audiovisual aids and self-pacing are the most congenial. Still other learners develop best in small groups. The student protests in the latter half of the 1960s over assembly-line higher education asked recognition of these differences and called for greater individualization in learning programs.

It is not surprising that dramatic changes in higher education took place in response to those students' demands. Their expectations focused suddenly on what were perceived, both at home and abroad, as gross disparities between the pronounced values of American society and its practices. Traditional course and program requirements were described as authoritarian. Calls for social justice were translated in higher education to calls for relevance in the curriculum. Out of this period of turmoil came many changes, some bad but many good. Among the latter was an increased awareness that what had become the norm in higher education was not, after all, the end of an evolutionary process but merely a stage in it.

Today, education, and especially higher education, faces again the need for significant change. Students no longer express their demands in noisy demonstrations but voice their needs more quietly through enrollment patterns. Most tend to choose courses and programs which they believe will provide them a measure of economic security when they graduate. Although today's students manifest idealism, it is tempered by occupational or professional goals.

Another pressure for change is the decline of enrollments. In the 1960s and early 1970s our colleges and universities enjoyed unprecedented growth in the numbers of students, faculty, programs, and physical facilities. Recently worry on campus about how to accommodate a swelling flood of students has changed to concern over how to attract more and how to keep classes – and programs – open.

Within the ranks of educators no single response or set of responses to the variety of problems our institutions now face has emerged. The proper balance in the curriculum is a continuing controversy. Many who were earlier proponents of change when they urged career education as an appropriate element in the curriculum now are conservatives in comparison to those currently seeking a larger role for the liberal arts. Arguments about grade inflation raise issues of what education is all about and how performance is to be judged, if at all. Does self-paced learning with its emphasis on accomplishment rather than the length of time required to master a subject constitute a reduction in quality? Do examination programs which permit the student to challenge a course or a requirement dilute the education received? Should stress be placed on content or process? Are alternatives to the traditional course methodologies gimmicks or a recognition that students of diverse backgrounds and abilities require a variety of learning approaches?

Debate on these issues and questions, properly conducted, is necessary to a dynamic university or college. Change, of course, is inevitable; it is the response to it that requires action. To engage in productive debate requires data that may be obtained best – and in many instances only – through experimentation and testing.

In the six years since the creation of the Program for Innovation and Improvement in the Instructional Process, a wide variety of new approaches to teaching and learning have been evaluated and data about them collected. The process we have employed, based largely on an open grant competition among faculty of the CSUC system, has minimized duplication of effort and assisted in the dissemination of materials and approaches from successful projects. In an evaluation of the Program in 1975, Harold "Bud" Hodgkinson, former director of the National Institute for Education, commended it:

> As far as we know, no other state in the union has conceived of using a state fund for improving the quality of teaching and learning under a structure similar to that of NPD&E (New Program Development and Evaluation) in California. . . . It seems strange to us that similar efforts have not yet been started in other states given the successful performance of this project and the fact that the need for improving the quality of both teaching and learning is becoming so widespread. Overall, we were very impressed with what we found; one gets the impression that the Fund has had some very genuine impact.

Such words were, of course, comforting. It would have been easy to continue what we had been doing and expect a lengthening list of successes. However, a program dedicated to stimulating constructive change must itself be willing to change as new needs and opportunities arise. And so it has. The Program described in the predecessor to this publication, *The Challenge of Creative Change* (1975), has been augmented and emphases shifted to make the most effective and efficient use of resources available. In the pages that follow we have tried to describe both what we have done and what we have learned since the inception of the Program and especially since February 1975. We have given the reasons for certain modifications and outlined the results that have been obtained. Still, the Program for Innovation and Improvement in the Instructional Process has retained its basic identity and purpose as defined initially by Chancellor Glenn S. Dumke in his call for "A New Approach to Higher Education" in 1971. This report reaffirms the purposes of the Program and details the implementation of its ideals.

Assumptions

The assumptions which form the basis for the administration of the Fund for Innovation, as it is generally known, are:

- We, as a system and as individual campuses, faculty, and administrators, have a primary responsibility to provide the best possible educational opportunities to our students. This commitment to quality education and to efforts to enhance it in The California State University and Colleges has been and continues to be the single most important guiding principle of the Fund and its operations.
- Students should be given increasingly greater responsibility for their own education. Because they are, on the whole, more mature, both in age and in experience, than students of the past, they deserve to be treated as adults and to have the opportunity to make choices about their own education.
- Educational programs should provide for a variety of alternative approaches to learning. As people differ in tastes and interests, so they differ in how they learn best. Recognition of this elemental fact is essential if educational opportunities are to be enlarged. An extension of this principle is that no attempt should be made to replace one orthodoxy with another; the emphasis should be on providing alternatives or options from which the student may choose the one(s) most congenial to his or her learning style.
- Requiring students to take courses covering materials or processes already mastered wastes their time, faculty energies, and public resources. It is a strategy for boredom and disenchantment which leads students to drop out.
- Change requires reflection, planning, and, once accomplished, validation of the results. All three activities place heavy demands on faculty time and energies. A program designed to test the usefulness of new teaching/learning methods must assist faculty members to engage in these if new approaches are to be designed and properly tested.
- New methods, once proved to be of value, must be susceptible of being incorporated into the regular operating budgets of the institution. And in a time of stable or even declining enrollments, some existing programs will surely have to be replaced by new ones.
- Maximum utilization of resources requires coordinated efforts. Proposals should be reviewed and endorsed by the campus to assure institutional support. Extension of proved new approaches may be secured through a program of information dissemination and modest grants to duplicate them in new settings.
- Innovation and change should not be imposed from above, but should originate with the faculty with the encouragement of administrators.

Modifications and Changes

In the course of the six years of its operation, the Program has undergone a number of changes or shifts in emphasis. These range from such relatively minor ones as modifications of the proposal review process, to more substantive ones described below.

Mini-Grant Program

Beginning in 1974-75 a portion of the Fund for Innovation has been set aside to give a sum to each campus to support projects at its discretion. This modification was made because it was recognized that a statewide grant competition that emphasizes systemwide impact in selecting projects for support may bypass proposals given high priority by a single campus. The grants to the institutions vary in size, roughly according to enrollment. The campus administers these monies for support of projects they select. The only requirements are that those chosen be consistent with general program guidelines, that reports on them be submitted to the Fund, and that support for any one project not exceed $2,500.

Approximately 150 such projects have been supported by the Fund in each of the last three years. Many have built on earlier projects selected through the statewide competition, and others have formed the basis for subsequent major or even multi-campus projects. These are discussed in Part One, Chapter 3.

As a result of the mini-grant projects there has been a much broader faculty and student involvement in the Program. And since decisions on funding are made by the campus, there has been an enhanced sense of institutional responsibility for and participation in the Program. Campus evaluations of the Mini-Grant Program have been extremely favorable. Funding will be augmented for 1977-78, and the maximum award raised to $5,000.

Multi-Campus Projects

Initially projects selected for support through the statewide competition were almost exclusively single campus efforts. In 1974-75 a deliberate decision was made to encourage the development of multi-campus projects. In part, this step was motivated by a desire to test the usefulness of materials developed by teams of faculty from several system campuses. Such materials, made acceptable to a number of institutions by the participation of their faculty in the process of development, would, it was hoped, significantly reduce duplication of effort and at the same time improve the quality of the product by drawing on a larger-than-usual pool of talent and expertise. Chapter 2 of Part One describes the extent to which this strategy has been successful and draws conclusions from its implementation.

Systemwide Credit by Evaluation

The Fund has supported a number of credit by evaluation projects from its inception. Most early efforts were single campus projects which proved expensive to operate and were of only marginal interest to students.

In the last two and one-half years, however, the emphasis has shifted to development of systemwide programs in credit by evaluation. The model used has been the highly successful and continuing English Equivalency Examination detailed in our 1975 report. Reviews of standardized examinations such as those available in the College Level Examination Program (CLEP) have been undertaken by faculty in the appropriate subject discipline, who have been selected by their departmental colleagues for this purpose. In one instance, such a group has created its own examination for system use. Approved tests in chemistry, biology, and mathematics for credit are to be given students at a "Science Day" scheduled on all campuses in spring 1977. Progress in this area is outlined in Part Two, Chapter 6.

A second area of major interest has been in efforts to evaluate learning achieved outside the classroom before credit is sought. Often known as Programs to Assess Prior Learning, these, as well as workshops to train faculty in the use of appropriate assessment techniques, have been supported by the Fund. Led by faculty at San Francisco and with assistance from the Fund, the system has played a major role in a national project to test and validate these procedures.

Professional Development

In a very real sense the statewide competition and mini-grant programs have contributed to professional or faculty development. By formulating plans, implementing new programs or processes, and evaluating them, faculty both extend and deepen their abilities. But since fall 1974 a program designed specifically to foster professional development has been instituted. With the assistance of a three-year grant from the Fund for the Improvement of Postsecondary Education (FIPSE) of the Department of Health, Education and Welfare, a Center for Professional Development was created within the Division of New Program Development and Evaluation. The Center, with additional assistance from the Fund for Innovation and participating campuses, has supported six institutions in the creation or extension of professional development programs. During 1976-77 a seventh campus was added to these, and modest funding was made available to four others during 1976-77. Initially, campuses were selected to participate through a special proposal competition with a view to testing different approaches to professional development in a variety of types of institutions, rural and urban, large and small, and those with a history of such programs and those with none. Approaches have ranged from workshop programs on how to give better lectures, conduct stimulating discussions, or use the computer or audiovisual aids in instruction as well as on techniques which can be used to renew institutions and programs or manage change. These are described more fully in Part Two, Chapter 4.

Emphasis Areas

Beginning with the 1974-75 statewide competition the call for proposals sent to campuses has identified subjects or areas of special interest in which applications are especially welcome. These are selected each year after consultation with campus personnel and the Task Force on Innovation, a rainbow committee composed of presidents, faculty, students, and Chancellor's Office staff. (See Appendix A.) Areas are chosen on the basis of current needs, opportunities, and concerns.

This strategy for the most part has been successful. Areas once neglected now are the subject of large numbers of proposals. When development of basic skills was designated, many more proposals than ever before were submitted in English composition and basic mathematics. There was, however, less response when general education was specified and even less when academic standards were singled out.

Although emphasis on particular areas has proved beneficial, for the most part it has created a problem. Many faculty decide not to apply to the Fund when what they propose does not clearly fit at least one of the selected areas. Although campus and system administrators stress – and the printed guidelines confirm – that a good proposal outside the emphasis areas will be funded over a mediocre one within them, faculty continue to be reluctant to expend the necessary time and effort to prepare a proposal in an area not designated.

Why Innovate?

In any program that seeks to stimulate creative change, it is clearly of interest to know what motivates people to attempt something new. The reverse side of that question, what deters them, is also of concern. After nearly six years of encouraging, stimulating, and, at times, prodding, we believe we have at least some of the answers. Interviews with a cross section of campus personnel and the insights of our Coordinators for Innovation in particular have been instructive. In addition, we sent a questionnaire to all past and current project directors in February 1977 to elicit both quantifiable data and narrative comment. Discussion of the results of that questionnaire are to be found in Part One, Chapter 1.

For the most part, the answers confirmed our previous impressions.

Faculty initiated projects as a result of:

- Student dissatisfaction with course materials or processes.
- Decline in enrollment.
- Concern over the levels of student learning achieved using traditional approaches.
- A decision to try something new after many years of employing the same methods of instruction.
- Awareness of new teaching methods used successfully by a colleague on campus or elsewhere.
- Success with an earlier innovative approach.
- Encouragement of innovation and experimentation by campus leaders.

Faculty did not initiate a project as a result of:

- Satisfaction with the methods currently being used.
- A desire to teach in the same way that one was taught.
- Fear of failure in an unknown role or process.
- Disappointment with a previous experimental approach.
- Recognition that innovation requires an unusually heavy workload.
- Adverse pressures from colleagues.
- Promotion, tenure, and retention criteria that ignore or depreciate innovations in teaching.
- Disinterest in innovation on the part of campus leadership.
- Distrust of CSUC headquarters and programs it supports.

Who Innovates?

Contrary to the usual perception, younger faculty are not more likely to initiate innovative projects than their older colleagues. Based on reviews of both proposals funded and those received but not approved in this Program, no clear-cut pattern of distribution by age or rank emerges. Proposals come from faculty at all levels. If there is an excess of applicants in any one group, it appears to be among associate professors and among faculty in their forties and early fifties. The reasons are much the same as those cited for participation or nonparticipation in innovative programs by the entire group. Assistant professors may not apply either because they are insecure about introducing innovations to which senior colleagues who make retention decisions are unsympathetic or because they believe that the traditional courses of study which suited them should suit their students as well. Some faculty at the higher ranks may either resist change because they are comfortable with long-practiced methods, but others, with the security afforded by tenure and rank, seem more willing to take risks. It should be stressed, however, that all ranks are represented among proposers and project leaders.

A survey of projects by discipline shows interest from almost all with the exception of ethnic studies, from which none have been submitted, and from women's studies programs, from which we have received only a few. Virtually all projects have been directed to the development of courses traditional to the curriculum. The early predominance of engineering and science proposals has been partially counterbalanced by more recent submissions from other areas. There remain, however, a high proportion of the former with social sciences and humanities (other than English) underrepresented. It may be that faculty in science, engineering, and allied areas are more experienced in writing proposals and, although we cannot be certain, we suspect that many projects rejected by the National Science Foundation (NSF) are resurrected and sent to us.

What Difference Has It Made?

Impact must be measured in many ways. Determinations of its extent may be based on statistical data, impressions, or anecdotal evidence. In each instance evaluation is involved. How good, how bad, how much more, how much less – all are judgments founded on information derived from the process or product. Use of pre- and posttests, control groups, instruments to measure cognitive and affective domains, faculty time-logs, and a host of other techniques are used regularly to reach decisions on whether a given program should continue or be phased out.

Much of the material in this report is devoted to answering questions about the impact of innovative learning methods. How much learning took place in one project as compared with another which occurred in classes using traditional or other nontraditional methods? How satisfied were students and faculty with the program? Was the presentation of an art history course by means of sound-on-slide and peer group instruction an improvement over the traditional lecture presentation? Do some elements work better and others less well? Is the procedure useful generally or does it serve only in a given course or discipline, or is it effective only when used by a particular instructor?

Plans for evaluation are included in all approved projects and reports are submitted periodically. They are both formative and summative, sometimes internal and sometimes external. Results are discussed with project personnel, campus administrators, and students. We do not have any single, all-purpose evaluation instrument because we do not believe one could or should have been used. Projects are far too different, and the variables too numerous to make such an effort productive. The only significant exception to this is in the cross-evaluation study conducted by an external evaluator for our English composition projects. It is the subject of Chapter 5 in Part Two.

Although numbers are by no means an adequate measure of the impact of the Program, a few statistics may be useful. In five years of statewide competition a total of 213 grants have been awarded. Since the inception of the Mini-Grant Program in 1974-75, there have been 483 smaller projects funded. The overwhelming majority of these awards have supported innovative projects of one kind or another. A few have been to encourage dissemination of information concerning innovative approaches generally or the results of specific projects by means of conferences and workshops. A full list of all statewide grants is to be found in Appendix B. The list of mini-grant awards is included in Appendix C.

Projects supported by the Fund reached a total of 85,000 students (based on survey data for the period through June 1976), most of them in classes utilizing innovative teaching or learning techniques. Over the same period, 7,000 faculty were involved in funded projects, either as project directors or associates, in conferences or workshops, or as participants in faculty development programs. These figures take on greater meaning when we consider that approximately 310,000 students are enrolled on our campuses and that there are some 15,000 faculty in the CSUC system. There is no way to gather data on spinoff effects, instances in which nonfunded faculty borrow elements of a colleague's project, process, or materials after funding has ceased.

Of course, numbers of students taking courses employing innovative approaches and statistics concerning faculty participation are, by themselves, not an adequate measure of impact. A project that alienates students or frustrates faculty surely has a restricted impact. But in terms of the objectives of the Program such a project may be a worthwhile demonstration that some techniques do not work or that they will not achieve specified objectives. But it also may well cause both faculty and students to reject any other kind of innovative approach. It is, therefore, of considerable importance that a reasonable ratio of success to failure be maintained.

One of the best measures of the success of a project is the willingness of the institution to continue the program after special funding has ended. Surveys made regularly throughout the history of the Fund, reveal that the continuation rate has remained an almost constant 85%. This is virtually identical to the rate achieved in mini-grants of 84% over the first two years of that program. Though extremely encouraging, this very high figure could indicate that the Task Force has been overcautious in the selection of projects for funding. On the whole, however, we believe it is evidence of the outstanding leadership provided by project directors and Campus Coordinators as well as the careful judgment exercised by members of the Task Force on Innovation who make final recommendations to the Chancellor on approval of projects. Details on the administration of the Fund and the proposal review process may be found in Appendix A.

Sources of Support

In addition to the major financial support for the Fund for Innovation programs provided through annual state appropriations since 1972 have been major grants received from the Carnegie Corporation of New York and the Fund for the Improvement of Postsecondary Education. Smaller ones have been obtained from the Danforth Foundation of St. Louis and the Alfred P. Sloan Foundation of New York. And all nineteen CSUC institutions have dedicated significant resources to the Program both to support individual projects and to administer the Program.

NEW DIRECTIONS ON CAMPUS

PART ONE

1

TESTING LEARNING ENVIRONMENTS:

Single Campus Projects

by David H. Provost

By far the greatest number of projects the Fund for Innovation has supported have been initiated and carried out on one campus. These single campus projects, as distinguished from multi-campus ones, have been more common for a number of reasons. First, proposals for projects involving joint efforts by faculty on several campuses were invited for the first time in 1974-75. In that year and in subsequent ones, fewer of them have been funded than single campus projects because they require a larger share of the limited money available. Several single campus projects may be supported for every multi-campus one. Since the initial intent of the program was to pilot test a wide variety of approaches and to involve in that testing as many faculty and institutions as possible, more single campus projects have received support, though total dollar allocations between the two categories are more nearly equal.

Another reason for the greater proportion of single campus projects is that more such proposals are received. It is far easier to plan a project for one campus. No matter how congenial the relationships among several persons on different campuses, consultation can be difficult. Interagency agreements which may appear complex to negotiate are avoided. Securing the required series of approvals prior to submission is less troublesome. When only one person is involved, there are no disagreements over concepts or plans for operation. Division of labor is not an issue. Though the rewards from multi-campus projects may be commensurate with the greater initial efforts, many faculty prefer not to take on the added paperwork and preplanning that must go into a collaborative effort.

A more fundamental reason for faculty preferring single campus projects is their tendency to work independently. Traditionally instruction in higher education has been by individual instructors [illegible] contrast to teaching teams, for example. The instructor controls his or her class – the cont[illegible] choice of textbooks, method of delivery, pacing, and evaluation, to mention the most obvious. Projects proposed by individual faculty members generally reflect this pattern. Many faculty would rather implement their own ideas unhindered by contrary views and undisturbed by the ideas and priorities of others. With appropriate rewording, the supposition comes out as a rather familiar proverb: Too many cooks (professors) spoil the broth (program). Although this may indeed be the case in some projects, evidence from funded experiments reveals that this reluctance to join with others is not well founded.

Single campus projects do have special advantages not just to proposers but to those concerned with innovation in our system. Projects mounted on one campus create a sense of proprietorship that may result both in a better project and in its being incorporated later into the campus' program. Joint ventures may dilute the sense of ownership felt by those participating; a successful project that is clearly associated with one person or one institution is something to which the director or campus may point with pride. Such satisfaction is less likely to be felt in a project where responsibility is shared, where the product belongs to no one person or campus. Aristotle stated the principle of this proposition: "That which is owned by all is valued by none."

The risk associated with innovation is another reason to emphasize projects on one campus. The same relationship prevails between single campus and multi-campus projects as that Justice Oliver Wendell Holmes identified as existing between federal and state organization. He described "insulation" as one of the virtues of the federal system. He saw the states of a federal union as insulated chambers in which various forms of experimentation could be encouraged. He argued that a new idea might not be tested at all if it had to be tried out on the entire nation, but that it might well be attempted within a state where the results, if less than favorable, would be limited in impact or, if successful, could be a model for others. The same may be said of innovation in a system of higher education. Limited resources may be used to test a new approach on a campus. Those experiments that do not succeed affect a small number of people. Valuable innovations may be used as models elsewhere.

The additional work required to put together, test, and validate a multi-campus innovative program or approach, however, may well be warranted by the results. Both approaches have value and treat different needs of faculty and programs. The concept and the projects are discussed further in the following chapter.

SPINOFFS

The staff employs a number of methods to ensure that the benefits from a successful new approach are not limited to the faculty member, department, or institution that has tested it. In the course of the past six years several have been tried with varying degrees of success. In the first two years New Program Development and Evaluation sponsored regional meetings which presented information about a variety of nontraditional approaches to teaching and learning. Since that time two major systemwide conferences have been held: "The Meaning of the Baccalaureate" and "The Challenge of Creative Change." At both, key faculty and administrators addressed major issues of curricular reform and new delivery systems in higher education.

Each of the last three years the Fund has supported workshops on specific projects at which those who have led pilot programs presented their findings and demonstrated materials and processes from them. In each instance those selected to attend were persons in the same or related subject matter areas. For example, an "Experiencing History" workshop was held at the Long Beach campus in 1975 where historians and social scientists from the system received information on the multimedia/simulation processes developed under a grant from the Fund. As a result, a multi-campus proposal employing this approach was funded in 1976-77 at Sonoma, Dominguez Hills, and Long Beach. Workshops have been offered in such subjects as career education, historic preservation, precalculus mathematics, and cooperative education. Proposals for grants to duplicate successful programs to assist in implementation on other campuses are encouraged.

In addition to these efforts at dissemination, the Fund has provided support for publication of a newsletter, *Future Talk*, which is sent to all faculty and administrators in the system. It provides, among other information, lists of projects supported together with brief descriptions of them and the names of persons to contact for those interested in learning more. Results from projects are also covered in feature stories that appear from time to time.

Another means of informing CSUC faculty about projects is the monograph series. All directors are encouraged to submit the required final reports on projects in a form suitable for publication. These are sent to those persons on each campus most likely to find the information of interest and possible use. A monograph on cooperative education which details the history and processes as well as the results of a project at Fullerton which attracted national interest has been published recently. A full list of titles in the series is to be found in Appendix D.

Since January 1977, information on all projects has been placed on a data bank in the computer at the University of California, Irvine. By using it any faculty can obtain information on any of the projects supported in either this system or in the University of California. The introduction to Appendix B contains further details about it.

The staff of the Division of New Program Development and Evaluation also provide information on projects informally on their visits to campuses or in response to inquiries to the office.

The stress placed on sharing information reflects the staff's concern over the tendency of proposers to reinvent the wheel. Though projects for the most part are not replicable in the sense that they may be moved in their entirety from one person, department, school, or institution to another, they may be adaptable or, at a minimum, may give to those interested in experimentation clues on what has or has not worked, which have been the most promising approaches, and which pitfalls are to be avoided. The multi-campus project based on an earlier single campus project offers a possible solution.

These and other more informal efforts have been successful in guaranteeing that projects influence others besides those persons and institutions that received the initial funding.

In a February 1977 questionnaire the following inquiry attempted to obtain information about the impact of projects: "To your knowledge, is the program or course you developed being used in whole or in part by other instructors? In your department? In other departments? In other colleges or universities?"

The response was encouraging, given the often expressed belief that programs or institutions are so unique that any project not generated on a particular campus cannot be useful to it. In thirty-one instances project directors indicated that other members of their department were employing at least some element of the project materials or processes (51%). In twenty-one cases other departments in the same institution were doing so (34%). A total of twenty-nine cited other institutions employing project processes of materials (48%).

Since respondents to the questionnaire were anonymous and several funded projects were of such a nature that the question posed was meaningless, the extent of the spinoff would seem even greater than the cited figures would indicate.

The effect of a given project or activity may be difficult to discern in the short run; it may become apparent only after a number of intervening events. A project director who attended the conference on "The Meaning of the Baccalaureate" in 1973 volunteered:

> . . . Our self-paced course in finance has been a tremendous success. It is used on at least six of our campuses and other places outside our system. . . . Your conference on "The Meaning of the Baccalaureate" . . . really had an influence on me. Believe it or not . . . it had an influence on [my campus] . . . . I feel sure (and the President has told me) that the report [of the President's Commission on the Future] would not have been the same if I had not been a member. . . . Believe me, it [the conference] worked its way into our report. I suppose that what I am trying to tell you is that your programs that have touched me have in turn touched others.

While the staff, through conferences and other means of dissemination, may assist in enhancing potential for spinoff, it is, of course, the dedicated faculty member and administrator on campus who deserve recognition for its realization. Their hard work, dedication, and enthusiasm are far more potent factors in arousing interest and encouraging receptivity among others.

THE PROJECTS

A review of the proposals supported indicates that the Fund for Innovation has encouraged faculty to test a wide variety of innovative approaches to teaching and learning. (See Appendix B for abstracts.) A review of those funded in the past two years reveals heavy emphasis on addressing the problems associated with development of basic skills in CSUC students, particularly in English composition. However, other areas have not been ignored, and many different methodologies have been employed which are applicable in varying degrees to other disciplines or subjects.

For purposes of illustration ten projects have been selected for discussion here. They represent a number of different instructional strategies and address a variety of learning problems. Four arbitrary categories have been created to facilitate reporting; some projects, it should be noted, could belong as well in another group.

Out-of-Classroom Programs

For the past decade there has been growing national interest in programs which provide educational experience outside the classroom. The increase in the number of cooperative education programs, internships, practicums, and other forms of sponsored non-classroom learning (i.e., programs sponsored by the institution as a part of the regular academic offering) reflects mounting awareness of the value of blending theoretical understanding with practical experience. A number of projects supported by the Fund have explored problems associated with assuring the proper blend of the two. They have sought ways to evaluate the learning that takes place away from the campus and at the same time to create and maintain necessary support for students engaged in such programs. The system has been involved in the national Cooperative Assessment of Experiential Learning (CAEL) project, and our San Francisco campus has taken a major role in it. Fullerton's Center for Community Internships and Cooperative Education, which received initial support from the Fund for Innovation in 1974-75 and again in 1975-76, has provided leadership to other campuses.

The extent and type of programs which feature non-classroom learning may vary widely. In some instances the work undertaken is clearly supplemental; in others the course is entirely devoted to the non-classroom experience. Some are sequential in that they require a student to work full time in the field for a term and then full time in the class. These are usually termed alternative cooperative education. In others, called parallel cooperative education, students work concurrently in class and in the field.

The other major type of experiential learning program assesses learning that takes place not only outside the classroom but also without institutional sponsorship. A student may have engaged in community service work and gained knowledge and/or skills that are academically creditable. This learning may not correspond to that obtained in a specific course but to portions of several courses in several disciplines. Such a student may, through these programs, seek credit for this learning.

The Fund has supported a number of projects through which procedures have been tested and policies developed in this area. Faculty teams carefully monitor the assessment of learning claimed. The most often used approach has been a portfolio in which a student describes the experience and then demonstrates the learning achieved through it. Documentation must be full and academically sound before credit may be awarded.

San Francisco's Cooperative Evaluation of Experiential Learning (CEEL) project which was first funded in 1972-73 has proved a model for the system. It is described in *The Challenge of Creative Change*, pp. 23-24. Several CSUC institutions have been members of the *Cooperative Assessment of Experiential Learning* (CAEL) project, a national effort to design, test, and validate model approaches to assessment of experiential learning.

In 1976-77 the Fund provided support for workshops on the creation of prior learning assessment programs. Focus was on the processes and instruments most likely to prove effective in measuring the academic quality of such learning. Extensive use was made of both CEEL and CAEL materials. Representatives from twelve system institutions attended; several developed proposals to be submitted to the Fund. One, at Long Beach, is being supported in 1977-78.

Urban Anthropology Internship Program (Northridge)

Of the projects supported in the past two years this is, in some senses, most traditional. The project director describes the program as one "intended to provide anthropology undergraduates with systematic supervised experience outside the confines of the classroom that will allow them to utilize the knowledge of cross-cultural data and attitudes and apply this knowledge to varying urban placement situations in the greater Los Angeles area."

There is a trend in anthropology toward implementation of internship programs in urban settings. What sets this program apart from many others is the emphasis placed on training of field supervisors to ensure the work done on site complements the theories studied in the classroom. Each field supervisor receives, in the director's words, "a custom-made course in urban anthropology, theoretically and experientially." The director then visits each several times during the term to assist in any difficulties that may arise and to monitor the progress being made.

The results appear promising. Student reaction has been quite positive; all those originally enrolled were asked to continue for a second term by their respective field supervisors. This is perhaps not surprising since, unlike some internship programs, students were carefully screened before being admitted. Students, in order to benefit most from such a program, must be well grounded in both the field (in this instance cross-cultural ethnography) and the nature of field work.

Difficulties that have arisen in the project have more to do with time than course content. The time required to identify a variety of field sites is great. Still, they have been found; they range from the Veterans Administration Hospital, Kaiser Permanente Family Medicine Clinic, and Cedars-Sinai Thalians' Clinic to the UCLA Museum of Cultural History, Ventura County Commission on Human and Community Development, to the Simi Valley Planning Commission.

Another problem has been the designation of the program as an independent study course. Since the campus limits the number of units that may be earned under this rubric, students' participation in the program is limited. A six-unit practicum established with a course could resolve much of the difficulty.

Full data on the program cannot be provided since it is currently in its initial year. Preliminary indications are that the emphasis on training field supervisors has proved its worth and that both students and supervisors regard the program as extremely valuable.

Internships for Students Minoring in Gerontology (Fresno)

Funded in 1975-76 as well as 1976-77, this project has been designed to assist students minoring in gerontology to understand and to appreciate the needs and characteristics of the aging and their environment. Many college-age students find it difficult to communicate with older persons. With the decline in the extended family, they have less opportunity than in the past to come into regular contact with them. Classroom or theoretical work alone cannot adequately prepare them for work with older citizens. A growing number of programs in higher education seek to train students to deal with the aging by nontraditional methods of instruction.

The objectives of the Fresno program, as set forth by the project director, are to assist students to:

- Become aware of the characteristics, life style, and general environment of the aging.
- Determine if they have the interest, compassion, and other characteristics required to work successfully with the aging.
- Obtain a better background for understanding the theoretical aspects of aging as taught in the classroom.
- Become aware, in a general way, of the needs of aging individuals and the various community services which are available to meet these needs.
- Experience a feeling of satisfaction that can come from establishing a good relationship with an aging person.

A correlative general objective will be to offer some benefit or service to the aging persons who participate in the project by:

- Providing some relief from loneliness, a common problem of the aging.
- Remaining alert to services and benefits available to them of which they might be unaware.
- In some cases, helping to restore to them a feeling of worth and dignity.

Students in the program enroll in a one-unit course which they must agree to continue for two terms. To receive credit, they must attend a series of two-hour seminars every two weeks at which they share experiences and insights, discuss theoretical elements and research in the field, and evaluate what they have done. The field component is made up of regular visits to the home of an aging person or couple. The minimum time required is four to six hours each month and no less than twenty hours a semester.

The reactions of both the students and their community have been enthusiastic. Enrollment in the program grew from nineteen in the fall of 1976 to forty-five in the following spring. The director attributes this to better publicity as well as to word-of-mouth advertising by students in the program. The hosts are largely recruited through church-related nutritional centers, each of which has lists of the home bound. The aged have posed an unexpected problem: there are too many interested in participating for the number of students enrolled.

As with the Urban Anthropology program, data are not yet available to enable firm conclusions to be drawn about the success of this approach. An evaluation report will be available August 1. It seems apparent, however, that those in the program believe it to be valuable, and every indication is that it will continue and probably grow.

The nature of this undertaking makes evaluating all but attitude difficult. It may be possible, however, to employ instruments designed to measure the growth of those interpersonal skills so essential to effective and productive work in this field. Though this represents a problem to be overcome, it also indicates the difference between this project and most others involving field work – the emphasis is somewhat less on knowledge obtained than on development of empathy and other qualities needed to work effectively with others. All indications are that the project is succeeding in accomplishing these goals.

Science Education for Nonscience Majors

General education has been variously described as "a quagmire," "formless," "without rationale," and, somewhat less articulately, "a mess." General education in science has many of the liabilities of other such programs. Students take the courses because they must.

Traditional approaches use lecture or lecture-laboratory formats. In both, opportunity for student involvement is either nonexistent or may seem contrived, and large enrollments make any laboratory work less than ideal.

The proposition tested under this grant was stated by the project director: "It is our experience that student participation in challenging and relevant experiments which require a more personal involvement with science greatly facilitates the understanding of scientific concepts and methodology. It also serves to alleviate any initial fear of science and mathematics in students whether they are science or nonscience majors."

A key, then, to learning is attitude. For many, science seems unrelated either to the student's personal life or professional goals. It seems to require modes of thought and analysis that are so alien that they are threatening. This project seeks to alter these preconceptions by providing students with the academic tools and understanding of the scientific method needed to address scientific problems and by giving them an opportunity to apply what they have learned in situations to problems of personal interest.

Experiments developed under the grant were designed to aid students to perform field work which would result in data which not only illustrated scientific principles but which also focused on such problems of general interest and concern as noise and air pollution. Each student works out the details of each experiment. Eight model experiments utilizing equipment purchased under the grant were developed. Among them were "Measurement of Photochemical Oxidant in Ambient Air," "Determination of Noise Levels in the Environment," and "Color Infrared and Time-Lapse Photography of Photochemical Smog Formation." Project manuals prepared for each experiment include an introduction to the topic, an explanation of the operation of the equipment item to be used, and references to library materials on the subject being investigated, e.g., noise pollution.

Logistical problems have largely been solved. Equipment used by students is housed in a central location; procedures to facilitate checkout have been developed. Videocassette tapes which provide instructions on the use of various types of equipment have been prepared under a 1976-77 grant from the Fund. As a result the faculty time required to acquaint the student with its proper use has been reduced.

Evaluation of the project included a comparison between attitudes of students toward science using this experimental approach with attitudes noted in sections using more conventional modes of instruction such as debates or independent study in the course, "Man and His Physical Environment." (The latter two options were not available to all students.) Questionnaires designed to investigate changes in student attitudes as a result of their experience in different modes of instruction were administered at the end of the fall 1975 semester and at both the beginning and the end of the spring 1976 term.

The fall 1975 survey revealed that:

- Of forty-seven students choosing to do field experiments 72% indicated a more positive feeling toward science at the end of the term compared with 57% of the debate group of thirty-nine.
- Thirty-two percent of the experimenters enjoyed participation in the discussion sessions all students attended, as compared with 13% of the debate group.
- Fifty percent of the experiment group and 28% of the debaters stated they were continually reassessing the problem they were addressing and changing their approach to it.
- There was little difference between the two groups in expressing their desire to take another science class (Experimental – 45%, Discussion – 46%).

The instructor for the discussion group in which all participated was also asked to evaluate changes in the students who worked in each of the modes. Though the project director feels the instructor was initially skeptical about the value of the experimental approach, results are favorable to it.

- Twenty-one percent of the experimenters were much more positive toward science at the conclusion of the course as compared with 3% of the debate group.
- Fifty percent of the students believed that they had thoroughly probed the problem they dealt with by experimentation while only 20% of the debaters thought that they had.
- There was no discernible difference between the two groups with respect to changes in awareness of the applications of science to social problems.

Not all students benefit most from any single method. Some doubt regarding the fairness of the debate format was expressed by students who felt participants who had strong oral skills had an extra advantage. The field experiment approach has proved a worthy alternative for those who wish to pursue it. In the words of the project director:

> Evaluation of the results of this program through our own qualitative assessment, through student questionnaires, and through the discussion instructor's evaluation of the performance of each student indicates that the project goals have been successfully

met. Thus a greater enjoyment of science, an increased self-confidence in students abilities to understand science, and a greater awareness of the applications and role of science in an increasingly technologically oriented society on the part of the students are evident from all three modes of evaluation. The calibre of the student reports on the experiments also indicates that their understanding of the methods of science has increased dramatically.

As a result, these experiments will be permanently incorporated into Physical Science 100. In addition, they are being considered for partial use in other courses at Fullerton, including a water pollution course, and freshman physical chemistry.

Folklife Project (Long Beach)

Among the other projects in non-classroom learning are the Folklife Centers (Long Beach) and Historic Preservation (Sonoma). The Folklife Centers blend an academic program with community need. Students trained in the techniques of oral history and folk traditions as a part of their academic program learn through doing in ways that also serve the community. In applying for a second year of support, the project director recalled its function:

> The Folklife Center expresses a CSULB commitment to a genuine involvement in its service area as a laboratory for students and faculty and as a university without walls where innovation and experimentation may take place in an atmosphere of social concern and academic seriousness. The core of the Center is the collecting of research materials and the creation of an urban archive of audiovisual and other materials from the culture, but around that core the main objectives are:
>
> - To facilitate a program of training for on- and off-campus students in the teaching of basic skills, using nontraditional methods in a variety of situations;
>
> - To develop a Parateacher Corps in our service area that will carry this work forward in a permanent and ongoing way through the Folklife Center branches;
>
> - To provide a laboratory for students and faculty to study teaching techniques in a community setting including assessment, credit by examination, autotutorial approaches to learning, counseling, field study, internships, etc.;
>
> - To provide general education facilities for off-campus people and to provide screening and recruitment facilities for general education departments on campus – especially for minorities and senior citizens; and
>
> - To open a way for the people of the Long Beach area to study and understand the origin and expression of their cultural and historical values.

At the San Pedro YMCA there are programs for students, low-income senior citizens, and ethnic minorities. For the large Chicano population in Hawaiian Gardens there are programs in arts and crafts. In Silverado Park students work with juvenile gang members. During the current year a Parateacher Corps is being formed with students from political science, anthropology, history, urban studies, psychology, and sociology. They will work in the community as interns.

Historic Preservation (Sonoma)

Another approach to education which involves the community is the Historic Preservation program at Sonoma. In part through Fund support, an interdisciplinary program has been developed which is new to the west coast. Courses have been created and articulation of existing courses and programs enhanced so that students may be prepared "to apply their knowledge and skills to the maintenance and improvement of [the] community. The student learns how to read the built environment, architecturally and socially, how to plan for preservation and the rudiments of building restoration. . . . A wide range of opportunities exists from the use of the media in preservation, to economics, to historical research, to the implementation of a variety of preservation projects in the community."

Departments of history, liberal studies, anthropology, and geography and the School of Environmental Studies and Planning have participated.

Uses of Media

From the outset of the Innovative Program, a number of projects funded each year have tested the usefulness of various forms of media in a range of subject areas and applications. These have involved television, audio- and videocassette systems, sound-on-slide presentations, multiple media, and the computer. Some have been used to supplement the regular course format; others have replaced lecture or laboratory sessions; still others facilitate more self-paced learning. Though somewhat fewer projects relying primarily on media have been funded the last two years, several new applications have led to support. Among them is a multi-campus project in Latin American Studies (see p. 47). Four recent or current projects illustrate the breadth of the testing supported.

Solving Logical Word Problems (Sacramento)

Funded in 1976-77, this small project uses the model of the computer to assist students in learning how to solve logical word problems. Complex word problems may be solved by the computer very quickly. Students can, in the fall of 1977, enroll in a course that will train them to solve such problems using the same kind of thinking as a computer. Logical problems are stored on the computer using two different modes of solving them, the Multiple-Applications Puzzle Solver (MAPS) or the Deductive Automatic Wang Generator (DAWG). A student using MAPS puts facts from the problem into the computer that have been drawn from the problem statement; the computer then prints out an information matrix showing what it knows about the problem and an answer matrix or solution to the problem if sufficient information has been fed into it. Using DAWG, the student places on the computer those logical relations drawn from the problem statement. For example, if X is true, then Y follows; Fact A precludes relationship B. The computer then stores these. The student asks it questions about conclusions that may be drawn, and the computer will then answer whether a given answer is valid or not.

Once experience with the computer's approach to the solution of such problems has been obtained, the students will be trained in the creation of flow charts, decision tables, and logic trees. The project director expects solutions to four-level problems within four minutes and the student, upon reaching this degree or ability, will then graduate to six level problems. Problem statements will be increased from reasonably simple ones to those containing twelve to fifteen fact statements.

A pretest of ability to solve problems will be administered before training begins in order to establish data necessary to evaluate gains in student performance. The project director conjectures that an untrained person may take fifteen minutes to solve a lengthy problem that will take someone with training only three minutes to do.

Computer-Assisted Advising Program in Speech Pathology (San Diego)

Advising is often considered peripheral to the educational process, yet the information provided students through a well-developed and effective advising program is an important element in assuring that they receive the greatest possible benefits from the educational opportunities offered by a program of instruction.

The Speech Pathology Advising program at San Diego was funded in 1975-76 to develop a system by which students could receive accurate and current information on program requirements and personal progress through a reliable and easily accessed procedure. The project director and two associates, in a paper delivered to the American Speech and Hearing Association Convention in Houston, November 1976, outlined the problem.

> The Department of Speech Pathology and Audiology at San Diego State University was faced with many [advisement] problems. First, there were 500 to 900 students enrolled in the program, including freshman through graduate levels, with no way of determining the exact number of majors in the program. Furthermore, the entire credential structure for school employment was changed by legislation. These laws prevented students from meeting state and national professional requirements simultaneously. Students in our program could select from eighteen different course patterns leading to various academic and professional goals. Most students selected a combination of three or four of these patterns. They often were shuttled between two or more advisors and had to coordinate their own academic programs.
>
> Another problem encountered at San Diego State was that over 75% of the students entering the program at the junior, senior, or graduate levels were transfers from community, private, and other state schools. Many students transferred from other disciplines, particularly at the graduate level. Since most of these transfer students had deficiencies in their academic background in terms of our program requirements, they presented particular problems in advisement.

Compounding the problems was a freeze on hiring which made employment of additional help in advising almost impossible.

Objectives of the advisement program were:

- To develop recordkeeping procedures to aid in the identification of students needing special counseling;
- To reduce faculty time spent on the mechanics of routine student advisement in order to increase time spent on advisement related to professional growth;
- To improve class scheduling by reducing course conflicts and by predicting needed class sections; and
- To provide a semester-by-semester display of the student's projected program based on updated transcript data.

After securing the student's permission to obtain information on his or her academic record from the Records Office, this data was placed on the computer to develop the Personal Update Report. From this information, a second computer report, the Student Profile Report, was developed. In it the academic record is articulated with the expressed professional goals of the student. Also listed are eighteen tracks or options available and the courses required, options, prerequisites, or corequisites in each. With such information, the computer can scan projected schedules to determine how many students are eligible to take a given course and how many are required to do so by their selection of career options. Class sections may be added or dropped accordingly.

Although full evaluation of the process has not been completed, preliminary data seem to indicate good progress toward the goals initially set. Both students and faculty have favorable opinions and long-term planning of programs has been enhanced. Such specific questions as "What do I take next?" have been directed to the computer thus relieving the pressures on faculty advisors so that they may perform other advising tasks more effectively.

Two other departments, Physical Education and Nursing, are testing this procedure at San Diego under a 1976-77 grant. The potential for still others to utilize productively the approach tested seems high, not only at San Diego but elsewhere in the system.

Modules for Teaching and Reinforcing Counseling Skills (San Bernardino)

Many educational programs make use of videotapes or other forms of visual instruction. Some find these forms helpful to demonstrate such processes as the proper use of laboratory equipment, while others use them to replace a lecture or series of lectures.

The project at San Bernardino used videotape programs to supplement instruction for the refinement of interpersonal skills needed by students preparing for careers in counseling. These skills, even if developed, must be practiced continually to be retained. Work accomplished under an earlier project supported from Fund resources demonstrated that "students tend to decrease in skill level during periods of time in which they take theoretically oriented courses (those not requiring the application of counseling skills with clients)."

To combat this problem a series of seven modules has been developed on the following processes: 1) defining client concerns, 2) asking facilitative questions in counseling, 3) advanced accurate empathy, 4) writing counseling contracts, 5) confrontation in counseling, 6) counseling resistant children, 7) evaluating counseling outcomes. In each instance the videotape program demonstrating the processes to be employed is accompanied by a programmed learning booklet specifying the objectives. For example, a student is asked to identify, in Module No. 1, the underlying client concern as indicated in ten of the client's statements.

Such training through media is not new. This project, however, boasts a significant addition – the use of dual track sound on the videotape. When the student views the tape with the sound of the interview on one tract, he or she hears the critique of that interview by the instructor on the other. Since the program is self-paced, the students may review the tape as many times as necessary in order to perfect the skills required. When the student feels ready, he or she will conduct interviews involving the same skills for comparison with the master tape. The instructor will then evaluate the student's efforts.

All seven cassette tapes are available upon student request at any time throughout the thirteen-course counseling sequence. All will be used during the final or capstone course required of all students before graduation.

The first test of this approach was undertaken in the winter quarter of 1976-77. Twenty students participated. An additional 200 are expected to make use of it in the spring and each term thereafter. Evaluation will take place throughout the year with results available in the summer of 1977.

A spinoff effect in this project has been the direct involvement of all members of the counseling staff. Their enthusiasm and contributions have assisted the codirectors and assured broad use of the developed materials.

Another project employing several forms of media is one based at Los Angeles which involves both audiovisual and computer elements. A description and evaluation of that project are contained in the following chapter.

Simulation

Several projects containing simulation processes have been supported over the years. Simulation and Gaming in the Social Sciences (Dominguez Hills) and Experiencing History, in both its single campus (Long Beach) and multi-campus forms, are examples. Two current projects feature simulation in courses in business administration and international relations.

Project directors regard simulation as a means both of achieving greater student involvement in learning and of providing not only greater depth of knowledge through the research required for role playing but also enhanced enthusiasm and interest among the participants.

The two current projects differ extensively in their approaches to simulation. The Los Angeles project, Development of a Capstone Course in Office Simulation, has created a business office in which students are confronted with simulated experiences they may be expected to face when employed in a modern business enterprise. The objectives of the program are summarized in the project application:

> Students will develop job competencies necessary for employment in the accounting, purchasing, sales, records administration, and administrative services functional areas of a simulated business. Students will rotate through office jobs and assume supervisory and middle management positions including office administrator, records administrator, manager of administrative services, and senior office systems analyst. The simulation will require "hands-on" experience with word processing equipment, a mini-computer, electronic calculators, hard copy and microform records retrieval and storage devices, and communication hardware including a telephonic dictation and transcription center. Simulators will emphasize the development and effective use of communication networks, paperwork simplification including forms design and control, office organization and layout techniques and procedures, office policy and procedural manuals, systems approaches to work flow and equipment selection, and work measurement techniques appropriate to the generation of increased worker productivity.

Twenty-five students each quarter are to be enrolled beginning in the summer of 1977. Members of the business community have become interested in the approach to be tested. The chief of office management of Lytton Industries, who has visited the project a number of times, advised the director at no cost to the project.

The other simulation project, one in international relations, is also just getting underway at Stanislaus. Enlarging on the experience gained through a mini-grant project funded in 1975-76, its objective is to create a self-contained arms-control simulation package which may be used for both on- and off-campus instruction. It also includes video and audio materials through which leading scholars and professionals in the field of arms control discuss various aspects of the subject. These tapes were prepared by the project director while on leave in the fall of 1976 in England and Europe. The package will include a simulation workbook providing a background of the arms-control efforts since World War II, the key issues (atomic weapons, conventional weapons, nonproliferation efforts), a comparison of the decision-making processes in the Soviet Union and the United States, and a comprehensive bibliography on the subject. A set of basic reading materials will be developed for off-campus use, and a videotape explaining simulation will be prepared. With this information students will then engage in their own simulations.

Evaluation will compare on- and off-campus utilization, growth in the understanding of the subject and processes through the course, and effectiveness relative to traditional methods of instruction.

Basic Skills

Three projects focusing on the teaching of basic skills in mathematics illustrate the variety of approaches to this area that have been supported by the Fund in the past two years. Though more proposals have been received in English composition (see Part Two, Chapter 5), several have sought to address the development of basic skills in this subject in which national surveys, and studies have indicated that many entering students lack preparation.

Reducing Math Anxiety in Women (Fresno)

This project, funded in 1975-76, addressed a phenomenon commonly recognized in education, the lack of qualified women in mathematics or fields requiring strong background in mathematics. The project personnel report that this phenomenon is increasing. Using statistics drawn from a study of the 1920-24 period by John Ernest of the University of California, Santa Barbara, they cited the fact that 20% of the Ph.D.'s in mathematics were awarded to women while in the past four decades only 7% of mathematics doctorates were earned by women.

Research into the reasons for this imbalance seems to indicate that no genetic differences between men and women can account for it. Interest in mathematics remains equal among members of both sexes until the age of thirteen when, in the words of Dr. Lewis Aiken of Guilford College, "The notion that mathematics is for boys can [begin] to play an important role in a girl's conception of herself as not interested or competent in math." In other words, the imbalance is socially determined by differentiation of sex roles. If women are not supposed to like to be good at math, then those who do, or who are, may be inclined to hide the fact. Those who could be are motivated not to become proficient.

For such women this subtle indoctrination leads to such anxiety over math that they avoid it. This in turn means they may enter only programs that do not rely on math. Thus they have more limited career goals than their male counterparts.

To address this problem role models – women who have succeeded in breaking the stereotype – are needed. Women need a program designed both to overcome math deficiencies and to develop basic skills and to reduce the anxiety many women experience when faced with math problems. The Fresno project was designed to address both of these.

Course activities involved two components, individual and small group tutoring and regular class sessions. Tutors were recruited who possessed math skills themselves and had an interest in the objectives of the program. Where possible, women were chosen as tutors to provide role models of women who had achieved a measure of excellence in math. Diagnostic examinations assisted tutors in determining areas of skills deficiencies.

The class sessions were devoted to testing, anxiety reduction, and playing math games which demonstrated the enjoyment that might be gained from working with numbers. Specific applications of personal use to the students, such as the use of mini-calculators and determining interest on loans, were included.

Statistical analyses of learning achieved and attitude changes experienced were made, and anecdotal material collected. Tracking of students to determine whether they enrolled in other math courses following completion of the math anxiety program was also made a part of the evaluation.

Pre- and posttests using the McGraw-Hill Basic Skills Test showed that fifteen of the seventeen students increased their scores from one to twenty-four points. The mean difference was 8.9412 and the standard deviation was 7.8060. Twelve of these fifteen students exhibited a marked change in math anxiety, as based on results from two administrations of the Math Anxiety Rating Scale. The range was from 13 to 151 points with the mean difference of 34.5294. The standard deviation was 54.3428.

For the second semester, nineteen students completed both instruments. Sixteen increased their raw scores on the Basic Skills Test from one to thirty points (mean difference = 8.3684; standard deviation = 8.1936). Sixteen (the "exceptional three" were not the same as in the first test) reduced their math anxiety from one to 193 points (mean difference = 79.0526; standard deviation = 62.9078).

Positive results from the project led to inclusion of the program within the regular instructional offerings of the University. In addition, interest in making use of the findings and processes developed at Fresno has been expressed by several other campuses within the system.

Basic Math Skills for the Multiple-Subject Teacher (Humboldt)

National concern over basic skills development often focuses on the student who graduates from high school without an adequate grounding in English composition or mathematics. While this is, of course, appropriate, and most projects supported by the Fund have also had this emphasis, there is another important element that deserves attention – the teacher. If students are not learning basic skills, it is at least reasonable to conclude that these skills are not being taught effectively. In part, this may be due to inadequate preparation in how to teach them in teacher training programs.

The Humboldt project was based on several assumptions:

> The students in the Math For Elementary School Teachers course have a wide variety of mathematical abilities and backgrounds. Some have only one year of high school math; others have taken a college calculus course. To avoid confusing the weakest students it is occasionally necessary to bore the strongest ones. In challenging the best it is easy to lose the least prepared.

- Different students are capable of mastering material at different rates; thus a particular lecture covers too little for some students and too much for others.

- The lecture is not a suitable way to present math in the elementary school. Thus the potential elementary school teacher must abandon the lecture method and modify the mathematical content of the college course in order to make use of it in his or her own teaching career.

- The lecture method perpetuates a dependence of the student on the teacher for learning. Since the elementary school math curriculum is in a state of flux, it is impossible to teach the students in the class all of the math they are likely to need in a career of teaching in the elementary schools. Some way has to be found that teaches the student how to learn math independently.

The primary goal of the project is to develop an understanding of mathematics at a level which will prove useful to the future elementary school teacher. The techniques used should be susceptible to being employed by the students when they enter elementary school teaching. By themselves, learning through these techniques, the students should have a better appreciation for the ways their students will gain competence in basic mathematics. The course, then, is not focused on how to teach, but rather on gaining knowledge of the subject in ways that will enhance teaching.

A three-quarter course has been developed in general mathematics in which students develop competencies appropriate for teaching at the elementary school level. Topics include sets, logic, algebra, foundations of the systems of integer numbers, rational numbers, real numbers, computational algorithms, geometry, probability statistics, measurement, and the metric system.

Lists of specific skills students are expected to develop have been prepared for each area, annotated bibliographies completed, task cards for a variety of activities designed to develop the competencies prepared, and multiple versions of tests in each of the areas created. This course differs from more traditional ones in the almost complete absence of sequencing; students may work on any of the areas at their own pace and in any order they wish. This not only motivates students, but also reduces the amount of equipment required since the pieces are not required by all students at the same time.

Evaluation of the project is premature since it is only midway through its initial implementation. There are, however, some preliminary data of interest. Announcement of the course led to more requests to take it than space permitted. The limit was twenty-five, and thirty-six sought to enroll. Of the twenty-eight who entered the class in the fall 1976, all but one completed the first quarter. (The one who dropped it left school.) Students who had declared their aversion to math have expressed their pleasure with the approach used here. One woman student whose father discouraged her from taking any math as "not a girl's subject" obtained permission to send home a test on which she had received an "A." The father, a school principal, is now convinced of his error. Student enthusiasm is apparent in both anecdotal data and in the fact that a number have used the self-pacing opportunities to complete the coursework early. One finished the term assignments in four weeks.

Evaluation will include administration of pre- and posttests. The math Anxiety Rating Scale and Mathematics Basic Concepts Examination (Step Series II) are being used. In addition, arrangements have been made for a control class so that comparisons of results with traditional methods may be obtained.

Where knowledge from one field is a prerequisite for entry into another, the lack of that knowledge is immediately (and painfully) evident. Students entering basic chemistry often lack the math skills necessary to handle course materials and concepts. The directors of this project estimate that some 40% of all beginning chemistry students are deficient in math skills and the ability to conceptualize. This percentage has been increasing in their own courses for the past six years.

With support from the Fund the project directors improved an existing chemistry qualifying examination so as to better identify those students with deficiencies in basic math skills. This examination tests conceptualization skills as well. Using the results, students may be directed into either the regular chemistry course or to the experimental section.

The basic math program prepared by the directors is self-paced and organized in modules. These include models, explanations, worked-out examples, and multiple practice problems with answers. Since the modules do not require audiovisual equipment, they may be used anywhere at the time and place the student finds most convenient. A room, however, has been set aside for tutoring purposes.

While evaluation of the project has not been completed, some information has become available. The pass rate for this course is somewhat lower than its traditional counterpart (50% as compared to 61%). The directors attribute this to the self-pacing involved (procrastination is typical of such programs) and the fact that only those students with poor preparation enroll in the first place.

Pre- and posttests of both math and reasoning skills were administered to sixty-five students in two sections of the experimental course in the fall 1976. Marked improvements were found in both.

Results have stimulated interests from other departments in the School of Science to establish similar courses.

IMPACT OF PROJECTS ON FACULTY STATUS AND TEACHING

In February 1977, a questionnaire to learn more about the effect of the Program was sent to those who had directed single campus projects. Results are summarized in Table 1 found at the end of the chapter.

In part the questionnaire was designed to elicit information about the effect faculty perceive of their desire to try something different on their position in their department and institution. The results, at least in some instances, may be a bit surprising. When asked to judge whether their status in their department had changed and, if so, how, those answering (N=55) gave the following responses. Two percent thought that it increased a great deal; 30% that it increased a moderate amount; 54% that it stayed about the same; 7% that it decreased a moderate amount; and 7% that it decreased a great deal.

Without further detailed information, conclusions are difficult. Still it would appear that fears that participation in educational experimentation will lead to adverse reactions from colleagues are less well founded than many faculty believe. Only 14% of those responding feel their status has been impaired. However, it should be noted that many of those leading projects are already highly respected members of their departments whose status is not likely to suffer. Too proposers may come from departments which are oriented to experimentation and whose members value it. Still, it seems likely that many project leaders who are not only less secure in status but who also teach in departments not so receptive to innovation who have engaged in experimentation have done so without a loss of prestige.

A second question asked was whether the extent to which administrators and colleagues consulted project leaders about improving teaching had changed. Of the fifty-four responding, 22% said it increased a great deal; 28% indicated it had stayed about the same; none believed that it had decreased.

Once a faculty member's work becomes known as a result of participation in a funded project, not just in his or her department but in the institution as well, the likelihood of being called upon to advise on matters concerning improvement of instruction increases. This is not surprising since most faculty in most departments are known for their accomplishments in their field of study rather than for breaking new ground in teaching methodologies. On the other hand, mounting a pilot project seems to increase the visibility of faculty who are interested and enlarges their role in the institution when questions about instruction are to be addressed. It seems likely that at least some of those who noted no change in the extent to which they are consulted were already significantly involved prior to receiving a grant.

Similar figures were tabulated for a closely related question, the extent to which directors became more involved with general teaching improvement programs on campus after receiving the grant. Of the fifty-four who responded, 26% saw this increased a great deal; 41% saw themselves involved to a moderately greater extent; and 33% perceived no change. None were less involved.

In attempts to measure the extent to which teaching effectiveness is improved, both in cognitive and affective terms, many projects include survey instruments designed to elicit quantitative as well as narrative data. Control groups may be established and pre- and posttest instruments are often employed. For the individual faculty member an assessment of how students react to a new approach may, however, be a matter of judgment based on previous intuitive evaluations. Of fifty-five respondents, 64% cited student dissatisfaction with a course or program as important in suggesting to them the need for their project. Only 13% said it played no role.

Several questions were asked in the survey to supplement formal reports on the impact of the project on student learning and satisfaction. The responses appear to confirm information provided in the formal documentation of project outcomes. Of those answering (N=52), 23% indicated a belief that their effectiveness as a teacher had increased a great deal while 57% saw a moderate improvement. Only one of the directors felt there had been a deterioration.

Several more specific questions elicited similar responses. Project directors (N=52) generally believe more students learn course materials using the innovative approach tested than through the traditional methods. Thirty-seven percent of the respondents reported this had happened "to a great extent" while another 48% described the change as "considerable." Only two directors perceived no change at all.

Educational quality is measured in part by how much of the learning that takes place in a course or program remains with students once they have completed the final exam successfully. The directors were asked if students retain what they learn longer when the nontraditional methodologies of their program are employed. Of the forty-one who replied, 37% stated retention had increased to a great extent, and 49% indicated a "considerable" increase. In only two instances was no improvement shown.

For those who suspect that innovation is a code word for programs that pander to students' presumed desires for easy learning (with a consequent dilution of academic quality), the figures cited above, when combined with responses to another question that asked whether students learn the same amounts of material with less effort, are somewhat reassuring. Fifty-five percent of the directors (N=48) saw no evidence that students work less, and 25% noted only a small decrease. In only two cases was a significant diminution noted.

The percentage of directors who perceived that students were satisfied with the directors' teaching correlates closely with the percentage of those who believed their teaching effectiveness increased. Of fifty respondents, only one (the same one who saw a deterioration in teaching effectiveness) felt student satisfaction with the instruction had declined as a result of the project. Sixty percent of the responses reported at least some increase.

Related to satisfaction with teaching is the extent to which students enjoy the learning experience. The teaching function performed by the professor is, of course, a major component, but other factors may influence student attitudes. Without knowing the identity of the person responding, it is not possible to determine just which elements led to the positive results reported. What is clear is that, at least as viewed by the project directors, students did enjoy their learning experiences more in the innovative programs than they did in the directors' previous, more traditional, courses. Approximately one third saw a great improvement (N=50) and another 50% perceived "considerable" positive change. None reported no improvement. This may account in part at least for the lower attrition rates reported from projects in other surveys conducted by this office. If learning is as good or better and at the same time is more enjoyable, students are more likely to complete the course.

There remains a further question to be answered. Given the total experience with the project, including student performance, attitude, administrative and colleague reactions, and the day-to-day operation with its attendant problems, what was the effect of having the project on the individual instructor's sense of professional satisfaction? Although many complained about lack of support from colleagues, apathy from a campus or school administration, or difficulties with local or system procedures, they still believed that this satisfaction has increased.

Fifty-six responded, and of that number 46% stated professional satisfaction had increased a great deal while another 45% felt it had grown a moderate amount. Only 6% felt it had declined as a result of the project. Faculty morale is an important element in assuring quality instruction, and the increase in professional satisfaction noted by over 90% of those responding indicates the role the Fund for Innovation has played in enhancing it.

Numerous comments over the past five years indicate that the availability of Fund support has had a positive impact on faculty creativity and morale, even for those who either fail to obtain funding or do not apply for it. The thought required to develop a proposal has often resulted in new ideas being tested without special support. Comments by Campus Coordinators, faculty, and administrators repeatedly confirm that developing a proposal stimulates creativity that later finds expression in curricular innovation. The fact that the Fund exists is also of symbolic importance; it lends a measure of legitimacy to the creative and imaginative efforts of faculty and administrators in the CSUC.

The existence of the Fund also encourages faculty to think about writing proposals. Familiarity with the procedure leads them to consider seeking support from other sources – private foundations, federal agencies, and institutional funds of several kinds.

When asked whether encouragement to apply to the Fund from departmental or institutional administrators was a significant factor, 63% indicated it was (N=56). Encouragement from colleagues was cited as important by 47% (N=55). Of the fifty-five responding, 87% stated the announcement of the Fund for Innovation competition was either very important (51%) or important (36%) in causing them to apply for a grant.

It seems fair to conclude that the presence of a *systemwide* program providing support to test innovative approaches to teaching and learning is indeed a major stimulus to faculty in preparing formal proposals, a stimulus not provided in the same degree by other potential funding agencies.

Problems of Single Campus Projects

As a part of the survey of past project directors, the question was asked, "What aspect of your project did you like least?" Some either did not reply or indicated only very minor difficulties. Responses of others varied greatly. A number of problems, however, were mentioned repeatedly. These were:

Bureaucratic Red Tape

This led the list in frequency of complaint. Many directors were frustrated with having to follow campus or system procedures. Knowing how to use purchase orders, secure reassigned time, process travel claims, and execute other administrative details plagued many to such an extent that it diverted their energies from the substance of their projects. One director summarized their attitudes: "The red tape involved in spending the money consumed much of my time that was critically needed in supervising the project itself."

It is illuminating to note that these complaints were largely from directors of projects funded in the earlier years of the Program. The increased ability of the Campus Coordinators for Innovation to assist faculty with these procedural problems has alleviated much of the difficulty. It is also true that the greater the experience campus support personnel have with the Program, the fewer problems arise in providing the assistance required. This is not to say difficulties do not continue to arise, only that they are less often a campus-based phenomenon.

The Timeline

Many project directors referred to the one-year funding of projects as a major hindrance. They used such words as "unreasonable" and "inadequate" frequently. Proposal preparation, implementation, and evaluation were described as impossible to accomplish "from September to June." Associated with this objection was a belief held by some that external support was withdrawn too soon to permit the project to be incorporated into the curriculum. About one fifth of the respondents complained of time difficulties encountered because they had not requested enough reassigned time and so lacked adequate time to devote to the project.

There are really two problems defined by these objections. The first is the one year-funding cycle. Because the Program is tied to the annual state budget, no assurance may be given that funds will be available in subsequent years simply because the Fund for Innovation itself may cease to exist. Two options, neither of which are especially desirable, are possible; both have been used. A project may be of a scope and structure that it can – with great effort and sometimes under great stress – be completed in a single year. A second approach, less typical, is to develop a two or (rarely) three-year project with each year's work schedule so constructed that the results may stand alone should subsequent funding not be available. A number of projects have, in fact, received second and even third-year funding where the results warrant.

It remains true, however, that limiting funding to a year-to-year basis is a major obstacle to faculty participation in the Program and constricts necessary planning in some areas.

The other problem concerns the appropriate amount of reassigned time for a given project. There are at least two reasons for these difficulties. The faculty member often requests too little and finds the project requires more than expected. In a few instances staff have urged augmenting the amount requested. The other reason, more often the case in recent years, is a need to reduce the budget request to meet the maximum budget permitted. In an attempt to spread the use of funds, a maximum of $20,000 (to be raised to $25,000 in 1977-78) was set on single campus grants in 1975-76. Faculty time is the most expensive item in most budgets and the one most directors are willing to cut initially. They too often express a willingness to increase their own contribution. This sometimes results in overwork, frustration, and much second-guessing. Still, the complaint is, in at least some instances, well founded. Where trade-offs must be made in budget negotiation, staff generally suggest that reassigned time be kept at the level requested and that the campus be asked to fund other items. In the first four years of the Program, approximately 55% of all monies have gone for reassigned time.

Pressure From Colleagues

This takes many forms and varies in its effect on the individual. An innovating faculty member in a traditional department may find chances for promotion endangered by participation in a project. Even where retention, promotion, and tenure (RPT) decisions are not involved, the morale of the project personnel may be affected by what one director termed "pot shots from outside the group." Suspicion of motivation, lack of campus administrative support, and failure of colleagues to assist in efforts requiring their participation all take their toll.

The staff can do little in the short run to help directors meet this hostility. Over time and through dissemination of information about the worth of projects, their processes and/or materials, and demonstration that the Program supports faculty wishing to try new approaches that may improve instruction, some of this antagonism may be (and in fact has been) lessened. It remains, however, a problem. In the short term, by sharing information, by developing informal networks of faculty who are trying innovative teaching methods or introducing both content new to the discipline, and by offering fiscal and symbolic support for such activities, the Fund offers help to erase the problems of the isolated innovator.

The Campus Coordinator plays a key role in supporting the project director. He or she is usually a person drawn from the ranks of the faculty who holds a middle-level administrative position. Possessing credibility with faculty as a whole and knowledgeable about both the formal and informal lines of power and authority on the campus, the coordinator is in a far better position to assist faculty in overcoming these kinds of difficulties than anyone in the central administration.

The question of what was least liked about a given project brought other answers. For the most part, however, these were isolated objections reflecting no central theme. They ranged from dissatisfaction with student response and "lazy colleagues" to a lack of adequate support for audiovisual activities by the system.

Suggestions for Improvement

A question which followed up the one reported above invited suggestions about ways in which the program might be improved. Responses correlate closely with the problems encountered; for example, there were suggestions that there be multiple-year funding and provision for additional reassigned time. Directors also suggested that incorporating the project in the curriculum, or embedding, be placed higher as a priority, though this again was tied to multi-year support. As noted earlier, most projects have been continued, but some in reduced form due to limited resources available on campus. Further funds, some believe, would have permitted fuller implementation. As one director put it: "[There should be] more emphasis on integrating projects into [the] continuing life of the campus." To this end it was urged that the Chancellor's Office play a more positive role in securing campus commitment to continuation. Projects must now be endorsed by the campus and a letter from the President must be received before funds are committed to a project stating that if a project proves successful, it will be continued within normal institutional funds. What constitutes a success and the level of continuation depends on local evaluations and resources. Six respondents vigorously objected to the lack of support from the local administration. Several detected outright opposition. Still others cited administrative apathy as a deterrent to embedding. Because most of the responses were anonymous, it is impossible to know how well founded such allegations are. It is clear, however, that innovation – and innovators – require moral as well as financial assistance, particularly where the departmental environment is less favorable.

In a somewhat different category were suggestions by several respondents that the Fund alter the kinds of projects it supports. Most suggested there be a greater diversity of projects; they urged guidelines for application be broadened to encompass a wider range of educational activities. One director recommended elimination of the word "innovation"; another objected to "too much money on the same things," citing writing projects as an example. One director, taking the opposite view, saw the Program as lacking in "thrust," "too heterogeneous and too mixed." The general perception was, however, that there should be "fewer restrictions on what may be funded." Modifications in the guidelines for the 1977-78 Program reflect this point of view.

Another suggestion was that in many funded efforts the staff provide more assistance for evaluation of projects. Assessment of the projects often needs to be improved, and staff has attempted to provide some help, either through their own efforts or by recommending external evaluators. A short paper on evaluation has been published which draws upon the expertise of several competent evaluators in the system, and we hope it will help those starting out to identify the right questions to be addressed in evaluation.

Several respondents indicated they would like to see the regional workshops on innovation resumed. These workshops, held in the first two years of the Program, showcased a variety of nontraditional processes and were well-received. Since that time workshops on specific projects have been supported with generally good results. Another series of the regional conferences featuring a variety of projects and processes is being considered for 1977-78.

Consultation on means by which the Program may be improved takes place each year. In addition to staff discussions with other Chancellor's Office personnel, there are semi-annual meetings of the Campus Coordinators at which time both the Program's substance and procedures are reviewed, and recommendations for modification discussed. Several key changes have been made on the basis of these, and others will be implemented in 1977-78. The Task Force on Innovation also makes recommendations on Program foci. Selection of emphasis areas, for example, is made only after such consultation.

In addition, comments are invited on a less formal basis from all faculty and administrators in the system. For example, in 1976 a questionnaire was included as a part of the Fall issue of the divisional newsletter, ***Future Talk***, requesting suggestions on how it might be improved. A number of those will be incorporated beginning with the Fall 1977 issue.

Benefits of Participation

Problems tend to receive greater attention than those aspects of a program that go well. However, most project directors believe they have benefited in a number of ways from funding. The questionnaire sent past directors asked them to identify what they "liked best" about their project. Answers tended to cluster around several themes.

The Opportunity to Experiment

In varying forms and words, this was the most often cited as the best aspect of the project from the faculty viewpoint. "Freedom to explore," "the chance to work on something of interest," "the challenge," and "the chance to do something I always wanted to do" characterize the responses. This lends further support to the belief of those administering the Fund that it provides an opportunity for faculty to experiment with creative programs which feature exciting ideas not likely to be possible without special support. Even those who complained of inadequate financial or administrative support were, for the most part, convinced of the professional and personal value of what they did. Such a response underscores again the importance of structuring the Program to invite faculty-generated proposals rather than those mandated by administrators. The enthusiasm and dedication of project personnel could not reasonably be expected to be as high if they did not feel, as most do, a sense of a personal investment in what they do.

Improvement in Student Learning and Enthusiasm

The reactions of project personnel to their participation in it suggest that it fulfills its purpose in supporting CSUC's goal of being a system of teaching institutions which emphasize the role of the instructor.

For one director the "opportunity in improved instruction" was felt to be the "best" aspect of the project mounted; another cited "the enthusiasm of the students who participated." Others wrote of creating "a better environment for students," "the opportunity to be involved in a controversial subject with students and colleagues." As noted earlier (p. 6) student dissatisfaction with traditional content and methods as a major element in causing faculty to develop proposals and figures on improvement in student learning and satisfaction tend to confirm the value of what was attempted, and 85% of the respondents (N=52) believe more students learn the material; 84% (N=50) believe students enjoy learning more; and 76% (N=55) stated students learn more using the nontraditional approach tested.

Interaction With Colleagues

A number indicated the interaction they experienced with colleagues was the most satisfying aspect of their project though some directors were disappointed with the support they received from their professional peers. The traditional classroom approach to teaching and learning depends heavily on the individual faculty member, but experimentation often requires working with colleagues – at the planning, implementation, or evaluation stages. Once the experiment has concluded, steps to embed almost always do. Dialogue is encouraged, and perspectives shared. The isolation of the typical teacher, at least with respect to his or her teaching and course strategies, is broken down. Whether this proves to be a good or bad experience depends, of course, on the value of the project and the receptivity of one's colleagues. In a significant number of instances it proved to be good.

Administrative Support

Another benefit cited was closer cooperation with, and increased support by, administration. Many commended administrators for encouraging them to develop proposals, though a few complained of apathy or perceived hostility (see p. 27). On the whole, project directors apparently found local support good. Particularly gratifying to staff were comments expressing appreciation for the support and encouragement they provided. Still, the local environment for innovation is extremely important; a campus leadership which supports it is most likely to stimulate proposals and projects of high quality. Where such an atmosphere is lacking, faculty are likely to anticipate varying degrees of frustration in applying to the Fund in the future and are suspicious of possible administrative reactions, including those associated with promotion, retention, and tenure decisions.

Responses to the type of questionnaire employed for the survey are only indicative. What was "liked best" excludes possible answers that rank only slightly below the one given. Some replies, though in general quite positive, did not include answers to the specific question. However, the elements described above were cited on many of the questionnaires returned. The fact they were in response to an open-ended question lends them some greater weight.

There were few surprises about either the problems or the benefits noted by project directors in their responses. Staff had been aware of most of the former, though their persistence is cause for concern. Of the latter, the positive comments, in view of the continuation of some 85% of the projects supported in some form without special external support, are encouraging. The results to date would seem to indicate that faculty interest and support, which are essential if the objectives of the program are to be met, are present and growing. Additional evidence has been provided by the 1977-78 statewide grant competition. The number of proposals received rose by 50% over the previous year and requests for funds totaled approximately $4.2 million. If separate competitions in the areas of professional development and steady state are included, there was a 72% increase.

TABLE 1

PERSPECTIVES ON INNOVATION FROM SINGLE CAMPUS PROJECT DIRECTORS

(Response to a Questionnaire, sent February 1977)

Please complete all items.

1. How important were the following in suggesting the need for your proposed project?

	% Very Important	% Somewhat Important	% Somewhat Unimportant	% Very Unimportant
*a. Student dissatisfaction with a course or program . . . (N = 55)	40	24	24	13
*b. Peer or colleague dissatisfaction with a course or program . . . . (N = 52)	27	27	21	27
c. A change in departmental emphasis . . . . (N = 52)	10	17	23	50
*d. A change in colleague emphasis . . . . (N = 53)	4	16	22	59
e. A visceral feeling . . . . (N = 53)	42	26	13	19
*f. Decreasing enrollments . . . . (N = 52)	4	12	10	75
g. A change in, or addition to, my field, discipline or profession . . . . (N = 52)	25	10	17	48
h. Hearing about success with the idea elsewhere . . . . (N = 55)	16	24	18	42
i. A change or improvement in instructional technology . . . . (N = 55)	42	18	13	27
j. A low rating by an accrediting body . . . . (N = 51)	0	2	4	94

2. How important were the following circumstances in stimulating you to apply for a grant from the Innovative Fund?

	% Very Important	% Somewhat Important	% Somewhat Unimportant	% Very Unimportant
*a. Encouragement from departmental or college administrators . . . . (N = 56)	38	25	18	20
b. Encouragement from colleagues . . . . (N = 55)	22	25	15	38
**c. Lack of available money from other funding sources . (N = 54)	37	31	20	11
d. Lack of available money from regular departmental or college sources . . . . (N = 54)	61	28	9	2
**e. Stimulation by the announcement of the CSUC Grants program . . . . (N = 55)	51	36	7	5
*f. Hearing about a colleague's project having been funded . . . . (N = 53)	6	6	19	70

*Percent equals more than 100 due to rounding.
**Percent equals less than 100 due to rounding.

3. How much has each of the following changed as a result of your participation in the grant or award programs?

	% Increased a Great Deal	% Increased a Moderate Amount	% Stayed About the Same	% Decreased a Moderate Amount	% Decreased Great Deal
a. My status in my department (N = 56)	2	30	54	7	7
*b. My effectiveness as a teacher (N = 53)	23	57	19	0	2
*c. My sense of professional satisfaction (N = 56)	46	45	4	4	2
d. My general involvement in teaching improvement on campus (N = 54)	26	41	33	0	0
e. The extent to which I have been consulted by administrators and colleagues on the improvement of teaching (N = 54)	22	28	50	0	0
f. Student satisfaction with my teaching (N = 50)	16	44	38	0	2
g. The amount of faculty-student interaction in my course (N = 53)	21	43	32	0	4
h. My teaching style (N = 51)	22	47	29	0	2

4. How important were each of the following in influencing your thinking about the development of your project?

	% Very Important	% Somewhat Important	% Somewhat Unimportant	% Very Unimportant
a. Discussions with colleagues in your discipline (at your institution or elsewhere) (N = 54)	48	22	37	13
b. Discussions with individuals in fields which support instructional improvement (e.g., media specialists, education specialists, etc.) (N = 53)	34	32	17	17
c. Discussions with students (N = 53)	32	32	19	17
d. A paper heard at a professional meeting (N = 52)	4	23	15	58
**e. Article in a discipline-related journal (N = 52)	17	23	21	38
*f. Articles in educational or psychological journal (N = 53)	21	19	25	36
**g. Books and/or monographs (N = 52)	17	23	21	38

5. Which of the following descriptions best characterizes the *present* state of the results of your project?

a. It is being continued in original form 10

b. It was reduced in scope but is being continued 24

c. It is being continued in expanded form 18

d. It was cancelled 4

*Percent equals more than 100 due to rounding.
**Percent equals less than 100 due to rounding.

6. To your knowledge, is the program or course you developed being used in whole or in part by other instructors? Check those categories for which your answer is yes.

In your department	31
In other departments	21
In other colleges or universities	29

7. Please rate the extent to which your project has contributed to either instructional effectiveness or efficiency in the following areas. Use the scale provided.

	To a Great Extent	Considerable	Little	Not at All
*a. More students learn the material . . . . (N = 52)	37	48	12	4
*b. Students retain what they learn longer . . . . (N = 41)	37	49	5	10
c. Students learn the *same* with less resources investment . . . . (N = 54)	28	33	22	17
*d. Students learn the same by working less . . . . (N = 48)	4	17	25	55
e. Students enjoy the experience more . . . . (N = 50)	34	50	16	0
**f. Students learn something different . . . . (N = 55)	40	36	18	5

8. Please indicate your agreement with inclusion of the following criteria for selection of grants from this program.

	Strongly Agree	Agree	Disagree	Strongly Disagree
*a. Well explained goals and rationale . . . . (N = 59)	80	19	2	0
b. Clearly stated and attainable objectives . . . . (N = 59)	68	25	5	2
c. Documentation of adequacy and capability of staff for project implementation . . . . (N = 58)	41	50	7	2
d. Reasonableness of project budget . . . . (N = 58)	28	62	7	3
e. Innovative in substance . . . . (N = 59)	36	44	15	5
f. Innovative in methodology . . . . (N = 59)	34	46	15	5
g. Equality of distribution of grants among institutional types and disciplines . . . . (N = 58)	3	29	41	26
h. Some degree of campus support . . . . (N = 59)	25	58	14	3
i. Repeatability of project . . . . (N = 57)	30	44	21	5
*j. Positive results in terms of student-learner outcomes . . . . (N = 57)	53	40	4	4
*k. Potential *number* of students to be benefited . . . . . (N = 57)	32	42	18	9

*More than 100% due to rounding.
**Less than 100% due to rounding.

2 FORGING LINKS:
Multi-Campus Projects
by John M. Smart

Development of higher education curricula and courses of instruction occurs in isolation, often most splendid. This isolation gives the individual faculty member control over course content and, in most instances, freedom to select whatever kind of teaching approach with which he or she feels most comfortable. Though there may, in fact, be subjects mandated to be taught to all or most students, as is the case with requirements such as that for American History and Institutions in The California State University and Colleges, there are no clear parallels in colleges and universities to the prescribed, and often centrally developed, curricula normally found in K-12. Consequently, there is often little incentive for faculty to work with their colleagues upon common instructional problems and rarely stimulus or opportunity to work in conjunction with faculty from other colleges or universities, even within the same educational system.

The tradition of local and personal control over curricula and courses in the American college militates against task-oriented cooperation. There are, of course, exceptions. The efforts to improve curricula in the sciences undertaken by groups funded through the National Science Foundation in the 1960s and early 1970s resulted in curricular designs and materials which are available for use in undergraduate science courses throughout the country. But, it is important to note, their use was, and is, up to the discretion of individual departments and faculty. Furthermore, such curricular materials were, as a rule, developed by faculty engaged for the project as individuals, not as representatives of institutions which had committed themselves to the use of such materials once developed.

For a time in the late 1950s and early 1960s, the televised course appeared to many persons to lead ultimately to a homogeneous curriculum dominated by a few facile, photogenic academics. However, the costs of quality television production, up-dating, and faculty desires to retain control over curricula on a course-by-course basis have largely dispelled fears of standardized college programs. Today a student rarely earns college credit through a televised course.

Much attention has been paid in recent years to competency-based curricula. Consensus among academicians on desired competencies, say, for a degree in political science *could* possibly lead to agreement on curricula and thus to inter-institutional development of course materials, syllabi, and testing instruments. Definition of competencies at the degree major level in most academic subjects is proving extremely difficult and occurs, when it does, in one department and college at a time, not among departments of several institutions. There seems to be little direct evidence to date that emphasis on defining competencies will lead to any greater cooperation among faculty or institutions than has historically occurred.

Most surely a common curriculum, uniformly applied, would destroy diversity, a highly prized characteristic of American higher education, and stifle creative thought on the part of both student and teacher. Nevertheless there clearly seems to be a need for cooperative efforts among faculty to address common instructional problems and concerns, particularly as college and university student bodies become more heterogeneous and as the need for greater individualization of programs becomes apparent. Indeed, the notion that one faculty member cannot benefit from the experience of another to improve teaching abilities and instructional content is contrary to the spirit of inquiry and the learning from others which is fundamental to education itself.

Believing that cooperative effort across campus lines could result in innovation and improvement in instruction greater than the sum of the contribution of individual participants, the CSUC Program for Innovation deliberately set forth to encourage cooperative effort across institutional boundaries in the development, testing, and use of curricular materials. The rationales behind such an effort were several.

First, it was thought that faculty have much to learn from one another, not only about subject matter, but also about ways of teaching and improving the instructional process. Joint projects across campus lines could bring together experts within a discipline. Such projects could then bring together the experienced innovator in instruction on one campus with other faculty who wished to try new methods of teaching at other universities in the system.

Second, inter-campus cooperation, it was believed, could address the knotty problem of dissemination of project results. Workshops, word-of-mouth, and published reports have value in letting one faculty member know what another has done, but they do little to actually assist a faculty member in trying a different instructional approach on his or her own. But a project encompassing several experimenters could serve to disseminate ideas and processes, while assuring that experimentation would in fact occur.

Third, even though the history of inter-campus cooperation in curriculum development is marked by few successes, it was supposed that if the focus were upon process rather than product, then some of the barriers to cooperation might disappear, or at least become only minor hindrances. Faculty might join together to identify common instructional problems in, for example, a lower division course in economics and then identify alternative ways in which the problems could be addressed. After they did so, they *could* collaborate on the development of course materials for use in their respective classes. Though in such a model there is obviously a product, the model emphasizes the process of problem identification, the seeking of alternative instructional solutions, and then the joint development of curricular materials.

Finally, in the case of the CSUC the campuses which might participate in joint projects are a part of a large system of higher education. Too often the ties that bind a system seem to be those of fiscal procedures and control, rather than of instruction. The inter-campus project was seen as one way in which faculty from sister campuses might get to know one another, share concerns, and work jointly toward improving teaching.

With the experience gained in the past three years through the Program for Innovation supported multi-campus proposals and projects, we can determine the validity of these rationales and decide whether the CSUC or any group of universities, should continue or undertake such efforts.

THE PROJECTS

So-called system projects have played an important role in the Program, ever since the year of its beginning, 1972-73. Table 2 compares their number with those which were based on single campuses. Also shown are the number of multi-campus projects included in the system totals.

TABLE 2

SINGLE CAMPUS, SYSTEM, AND MULTI-CAMPUS PROJECTS
1972-77

	Single Campus	System	Multi-Campus Included in System
1972-73	49	5	(1)
1973-74	39	8	(2)
1974-75	25	9	(5)
1975-76	19	21	(10)
1976-77	21	10	(4)

Over the five-year period, fifteen system projects have involved faculty from two or more campuses who were brought together to address a common instructional or instructionally related issue. These projects have been termed *multi-campus* to distinguish them from the other system-oriented projects and programs which include, for example, the English Equivalency Examination, development of computerized test item data banks, and workshops. These fifteen multi-campus projects, which provide evidence about the validity of the rationales behind the multi-campus proposition, include:

	Years Funded
†*Assessment of Standardized Examinations in Business*	1972-73 1973-74 1974-75
Sacramento-based, San Luis Obispo, Fullerton, San Jose, Los Angeles	
†**Inter-Campus Development, Distribution, and Use of Self-Learning Modules in Nursing*	1973-74 1974-75 1975-76
Los Angeles-based, 4 campuses first year, 14 second year, 10 third year	
†*Interdisciplinary Modularized Program for Non-Science Majors*	1974-75 1975-76
San Jose-based, Fullerton, Bakersfield, Hayward	
†**Earth Science Curriculum Development*	1974-75
Northridge-based, Long Beach, Fullerton	
†**Individualized Instruction in Freshman English*	1974-75
Northridge-based, San Diego, Chico, Fullerton, Long Beach, Sacramento	

	Years Funded
†**Workshop for Developing Self-Learning Materials in Psychology*	1975-76
Bakersfield-based, faculty from 5 other campuses participating	
Major Assessment Profile: Political Science	1975-76
San Francisco-based, 10 campuses	
†**Individualized Instruction in Dietetics*	1975-76
San Francisco-based, San Jose, Los Angeles	
Interdisciplinary Center for Desert Studies	1975-76
San Bernardino-based, 7 campuses	
†*Development of Resources on Teaching Writing Skills*	1975-76
San Diego-based, San Francisco, Sacramento, San Jose, Fresno, Dominguez Hills, Northridge	
†**Individualized Program in Mathematics*	1975-76
San Diego-based, Fresno, Hayward, San Francisco	
†**Writing Adjunct Program*	1975-76 1976-77
Dominguez Hills-based, 9 campuses over a two-year period	
Labor Studies: Program Development	1975-76 1976-77
San Francisco, Dominguez Hills	
Latin America Media Project	1976-77
Los Angeles-based, Northridge, Fullerton, Dominguez Hills	
**Experiencing History*	1976-77
Sonoma-based, Dominguez Hills, San Francisco, Long Beach	

*Began on one campus in previous year as funded activity.
†Included in participant survey, see Table 3 below.

SOME FRAGILE SHARDS OF EVIDENCE

The facts, conclusions, and observations necessary to provide a perspective on multi-campus projects can be gathered from several sources. A primary one is the reports and monographs prepared on each project, usually by the project director, in some cases containing outside evaluations. It should be pointed out that often the project reports concentrate primarily upon the success of the innovation undertaken and less upon the process and impact of the multi-campus project *qua* project. Much, however, can be gleaned from these reports which bear directly on the discussion.

A second primary source of information is the reports prepared by the staff of the Division of New Program Development and Evaluation after a visit to the project site. In interviews during the fall of 1976 the staff probed the attitudes of project directors and their associates concerning the value of the multi-campus project itself. To these reports were added those findings on the English composition projects by an independent evaluator who had repeated contact with the projects. (See p. 00).

A third source of data for this examination is a short questionnaire sent to 110 faculty who participated in nine of the fifteen projects described above.

Finally, Campus Coordinators for Innovation have served as a continuing source of information giving us a record of the progress of multi-campus projects as well as providing their impressions.

Since each of the fifteen projects differs from the rest in purposes, number of participants, and discipline, a brief description of each is useful together with observations about the project drawn from project reports and site visits which bear particularly upon the multi-campus aspects of a project.

Nursing

Supported for three years as a multi-campus project, the program, "Inter-Campus Development, Distribution and Use of Self-Learning Modules in Nursing," is the most ambitious of the inter-campus efforts undertaken under the auspices of the Fund. Originating in a single campus project at Los Angeles, the program involved four campuses the first year, fourteen the next, and ten in its final year of special funding. The project continues at a somewhat reduced level of activity supported entirely by small contributions from nine campuses. (The third year of funding required a campus contribution, which led to the drop from fourteen to ten campuses.)

During its existence the project has developed 153 individualized learning modules of various types for use on the campuses in the system, most of which are usually equivalent to one hour of instruction. Faculty have been trained to develop and use modules in their teaching. Their involvement has been significant; for example, in 1975-76 forty-seven faculty from the ten campuses participating in that year developed, revised, and reviewed modules for the project. A single distribution and storage center for modules has been established at Los Angeles to distribute modules both to CSUC campuses and to institutions outside the system at cost.

Because of its scope and size, the project benefited from independent evaluations. These provided ongoing assistance to the project steering committee in assessing faculty use of modules, the most productive way in which modules may be produced, the faculty development and training required to make effective use of the independent learning materials, and the general value of the project. These evaluations and project reports include several points of particular interest.

At the ten project campuses in 1975-76, coordinators reported that more than half of the faculty at their campuses used project modules. Of those being used, about half were developed by the campus' own faculty members. It was observed, as well, that faculty who have developed modules themselves, generally use their own modules if they are teaching the appropriate courses. A total increase in the use of modules was noted between 1974-75 and 1975-76 as well as an improvement in the quality of modules.

Addressing the question of the effort required to make use of independent learning modules, the current Project Director concludes:

- Because the time required to develop an initial module is great, module development is difficult to accomplish without special recognition of the time requirements.
- If modules are used in lieu of lectures, time spent in preparing lectures is curtailed but time spent in working with students in clarifying, applying, and amplifying module content is increased.
- Modules need to be updated and revised every two to three years. Time and funds should only be half that initially expended to produce the modules.
- Most instructors using modules extensively believe that modules can reduce the work of the instructor but this impression cannot yet be documented.
- Campus Coordinators believe that modules in fact have had little impact on the amount of free time available to faculty, though the amount of lecture time decreased. The use of learning modules seems neither to increase nor reduce the amount of personal attention given to students.

The project has tested a number of ways of working with faculty in preparing modules; team development in an intensive workshop setting, faculty released time during the academic year, and through use of an individual contract with faculty completing modules during the summer. The most effective method was found to be an individual contract. It is economical and results can be assured through the payment agreement.

Summarizing the benefits of the Nursing Project, Marilyn Friedman, 1975-76 Project Director, concludes:

- The use of modules developed on an inter-campus basis reduces duplication of development time thereby resulting in an overall gain of system productivity. Since faculty are selected carefully to be module developers and their modules are reviewed by other faculty with similar expertise, the quality of the product is higher and more usable than modules which are not developed under an organized program.
- With experience in the development and refinement of modules, the time required to develop modules was reduced during the course of the project. The cost reduction in dollars was from $2,120 per module to $700, including review and coordination.
- Because faculty with a specific expertise are not always available on a particular campus at a particular time, the project could draw on faculty throughout the system for the needed skills or knowledge.

> Participation in the inter-campus effort will lead to continued collaboration among nursing faculty across campus boundaries.

In the report on the 1974-75 program, Project Director Lee McNall had addressed the importance of the project in starting inter-campus cooperation:

> Through periodic advisory meetings, the development and use of modules on an inter-campus basis, and individual campus consultations, an important process of communication among faculty on the fourteen campuses having nursing departments has been established. Through this process many faculty members have shared opinions and ideas regarding curriculum development, have identified more appropriate teaching/learning strategies, have received assistance and support in developing a new approach to teaching, and have begun to develop modules on their own. Heretofore this kind of interaction has been entirely lacking on a faculty level and has been identified by the project staff as perhaps being one of the most important aspects of the Inter-Campus Nursing Project.

While there are a number of indicators of success of the project in terms of its outcomes and impact upon the campuses, the program is encountering difficulty in maintaining a significant level of activity without special support. As yet the number of campuses willing to keep up support and the limited funds which they are able to provide make continuance difficult and problematical. Some momentum has, no doubt, been lost. Much of the work in developing modules has been completed. What remains is maintaining a clearinghouse and assuring updating and revision with limited production of new materials. Faculty use of modules, though significant, has not been great enough for a major revolution in nursing instruction throughout the system to occur or for the individual campuses to recognize clearly that the inter-campus program must continue, even at a significant cost. The new directions which are probably required to keep the inter-campus machinery vital will be difficult to initiate without special funding.

Science Course for Nonscience Majors

Faculty from San Jose, Bakersfield, and Fullerton campuses were funded in 1974-75 and 1975-76 to develop materials cooperatively for use in a lower division science course for nonscience majors. Using what might be called a classical approach to course development, the faculty participants, coordinated and assisted by a nationally recognized expert in instructional development, set about to prepare teaching and learning modules which relied extensively on student inquiry and initiative. After surveying student interest, they developed three modules which, when used in conjunction, would constitute a three-semester-unit, lower division, science course. The modules were on consumerism, the environment (emphasizing water utilization), and energy (focused on heat transfer). In the second year an additional campus, Hayward, was represented in the project, and an additional module was contributed by that campus' representative. Full use of the modules was made on three campuses during the second year of funding. In 1976-77 they are in use at Hayward and San Jose, but due to changes in faculty and course sponsorship, the modules are not in use at Bakersfield and in only partial use at Fullerton. A workshop attended by representatives from twelve other campuses held in May 1976 led to expressions of interest in the modules and supporting materials by faculty from three additional campuses.

Evaluation of the project conducted by an independent evaluator showed 80% of the students preferring the inquiry-based instructional approach of the modules to traditional science instruction. On a variety of questions the students' response was uniformly favorable to all aspects of the program. Instructors indicated they believed that their students probably learned more than they would have learned if their class had been taught using a more traditional lecture-demonstration approach. The evaluator's comment underscores the value of the project materials: "In fact, it was abundantly clear that students in these experimental modules were honestly having fun learning science!"

This project did not originate with a project or program on one of the participating campuses, though the director and the faculty participants were generally familiar with instructional design principles and with innovations in the teaching of science. Participants would likely agree that the project was slow in beginning because reaching agreement on the form and substance of the modules required much longer than anticipated. Geographical distances between campuses limited the number of meetings and, no doubt, slowed down team-building at crucial development stages. Administrative support seemed to vary thus complicating the problem.

Despite difficulties, three apparently worthwhile modules were produced and continue in extensive use by students on two of the four participating campuses. It is significant to note that continued use is being made on a campus which was not an original participant – demonstrating that deliberately planned, and funded, dissemination of project materials and approaches can succeed across campus boundaries. The project seems to have been relatively successful in attracting faculty not included in the original design team not only at Hayward, but also on the Fullerton campus, where project personnel changed from the first year to the second. The comments of Richard Smith, San Jose, summarize the experience with regard to dissemination of project materials among faculty:

> Our experiences . . . have confirmed earlier suppositions: Curricular innovation is *not* transmitted primarily in the form of materials such as books and equipment. It is transmitted through instructors who participate. . . . Those who participated found their own ways to express a common goal. Even in the redesign of colleague's units, participation leads to greater understanding. Such participation is basic to commitment. Commitment has not been observed in those who received the guides and other materials without support for participation through unit development or redevelopment.

Earth Science Consortium

Faculty from three campuses, Northridge, Fullerton, and Long Beach, joined together in 1974 to develop videotapes for use in introductory earth science courses and to make further use of a series of tapes prepared as a part of a single campus project begun at Northridge in 1972-73 (the SPIRIT Project). Fifty-three, thirty-minute, color tapes which were developed in the two projects are in use today on the participating campuses. In addition, sets have been provided to other system campuses. This extended use is in part the result of a dissemination workshop held in the spring of 1975.

The videotapes used in the program take advantage of the visual dimension to demonstrate and illustrate concepts in earth science. The videocassette format permits self-pacing and independent viewing as desired by the instructor.

Several of the project participants in association with a publisher of educational materials have adapted the tapes for general sale and distribution. Any royalties received under this arrangement will be shared by the CSUC system and the faculty.

The project has apparently been quite successful in meeting its objectives of the joint development of videotapes. The process, however, was marked with production problems and by differences in receptivity to the innovation among the three campuses. At Northridge the SPIRIT Project had already laid a foundation for the use of videotapes in an individualized learning situation. At Fullerton other projects in the sciences, funded in part through the Fund for Innovation, made acceptance easier. At Long Beach, however, the department was not so well prepared to support the project and to use the materials fully.

The production of tapes led to difficulties. Some of the delays were probably attributable to the fact that faculty from three campuses were contributing to the development of tapes produced at one center (Northridge). The seemingly inevitable delays, of ordering of needed pieces of equipment through State procedures further took their toll on the timeline for the project.

Individualized Instruction in Dietetics

Building on a mini-grant project at San Francisco in 1974-75, faculty at San Francisco, San Jose, and Los Angeles joined to undertake a multi-campus project to produce and test instructional modules for use in nutrition and dietetics courses. These modules were designed to be diagnostic tools prior to beginning upper division coursework, to develop basic competencies, to provide enrichment for the highly motivated student, and to reduce the need for lower division course sections in preprofessional courses. Some modules make use of media and the computer. During the year of funding, sixteen upper division modules were produced and nineteen others were adapted for lower division instruction. Additional modules were scripted and storyboards written but await production primarily because a renewal of the grant for 1976-77 was not approved. Pilot testing and evaluation of the modules produced under the grant are in progress at the present time.

This project, perhaps more than any other multi-campus effort, encountered procedural difficulties in its fiscal administration. As a rule funds are transferred to the lead or host campus for the project and then reallocated by that campus to other participating campuses to provide for faculty reassigned time, operating expenses, and the like. In the dietetics project this process seems to have broken down, resulting in major delays. In this way its multi-campus nature hindered the accomplishment of the work at hand. On the other hand, the project director reported: "The meetings between the subject matter faculty did much to strengthen our relationships and were felt by all to be an extemely important and positive outcome of this experience." Because a full report on the project is not available, further comment on its accomplishments is premature.

Assessment of Standardized Examinations in Business

Beginning with the objective of exploring ways in which to assess the effectiveness of curricula in business administration, this project, which included participation from Sacramento, Fullerton, Los Angeles, San Jose, and San Luis Obispo, achieved its most significant impact in evaluating and establishing norms for the newly developed business examinations created by the New York Regents. The results became particularly significant as the CSUC Consortium explored development of its programs in business administration and credit by examination. Largely based on the findings of the project, The Consortium is developing a specific policy on the credit which may be granted for passing successfully the selected Regents' examinations.

The project brought faculty together to consider specific testing instruments and, to some degree, introduced them to possibilities in credit by examination. In great measure its impact, however, has been more upon system policies and programs such as The Consortium, than upon individual campuses. It should be noted that the program assessment focus of the initial grant was replaced by the examination-norming activity because the school Dean who developed the 1972-73 project ceased to participate. This project, in several respects, was a pioneering effort in bringing faculty from across campus boundaries to consider particular examinations for credit or evaluation purposes. Subsequent projects have been undertaken by the Credit by Evaluation program described in Part Two, Chapter 6.

English Composition Projects

The projects undertaken by the Fund in English Composition in the past two years are discussed in detail in Part Two, Chapter 5. Three projects, however, are multi-campus in nature and should be given some attention here.

A project which developed *individualized instruction materials in freshman composition*, begun at Northridge in 1973-74, was extended to five additional campuses in 1974-75. The project included the adaptation of the Northridge materials for use in the programs of other campuses, in some instances for students needing remedial work rather than the typical freshman composition class for which the materials were first designed. The inter-campus project provided for both evaluation and a moderate exchange of information among the participants.

Student responses both to individualized work and to the tutoring aspect of the model were favorable. Fifty-nine percent of the students who found writing very difficult felt positive toward the course — an unusually strong response according to one of the evaluators. Both instructors and tutors favored the course and its approach, though there were criticisms of particular modules.

Aspects of the course continue at the original participating campuses with perhaps the most extensive use of the method and materials, though in revised form, at Sacramento. The complete course program, however, has not survived at the campus where it began despite favorable evaluation.

The history of this project suggests that it is possible through a multi-campus project to assure the continuance of an innovation in instruction even though the milieu in which it first developed is not conducive to its perpetuation, for whatever reason. In retrospect the project probably did not fully make use of the collective talents of the participants from the several campuses. Comparatively little interchange occurred, though most campuses, it appears, did their best to adapt to the Northridge-developed materials. A greater participation in the joint development of such materials might have improved the chances for the success of the project.

The project did have some important results. It laid the groundwork for the other two multi-campus projects in English composition. The first, *Resource Development for Teaching Basic Writing Skills*, based at San Diego and included San Francisco, Sacramento, San Jose, Fresno, Dominguez Hills, and Northridge, evolved from the first project described. This project emphasized use of the Personalized System of Instruction (PSI) method of instruction for remedial students, preparation of a tutor's manual, and evaluation of diagnostic tests. Each participating campus was asked to develop particular components for the program and to test its own components and materials.

In a climate of concern for education in basic skills, particularly writing, the materials and processes produced by this multi-campus project will doubtless have impact, though it is still early to assess the extent of that impact. Indeed, the interrelationship of the number of writing-skills directed projects and programs throughout the CSUC system, funded both through the Program for Innovation and by campus resources, makes assigning causal relationship to any one project most difficult. The future impact of this particular multi-campus project is perhaps limited to some degree because the project codirectors, though both able and conscientious, were non-tenure track faculty. One has since left the system. Continuity, and the more subtle problem of prestige attached to having senior faculty direct such programs, no doubt, should be taken into account in judging the full impact of the project.

The Basic Writing Skills Project had careful preplanning but nevertheless the number of campuses, its relative complexity and scope, and the short period available in which to accomplish a great deal probably detracted somewhat from the program. On the other hand, the meetings of project participants carried on the inter-campus exchange of ideas which had begun, in part, with the Northridge-based project of the year before. Though it is difficult to document, the ferment and discussions which went on within these two projects probably contributed significantly to the recognition of the need for the CSUC system to confront the writing skills issue, which it has done through the Writing Skills Task Force and subsequent Trustee action on recommendations from that Task Force concerning the need for proficiency examinations.

The Writing Adjunct Transfer Project, undertaken in 1975-76 and continuing in 1976-77, has demonstrated the clear value of a multi-campus project's capacity to successfully disseminate a method of instruction from one campus to another. Riding the crest of the wave of the interest in writing skills, the adjunct approach links the writing problems the student encounters in his or her courses with the instructional and tutorial resources of composition programs. Beginning with a model developed in Dominguez Hills' Small College, the multi-campus project over the two years of its existence has stimulated interest in this approach throughout the system and has assisted, through funding, in implementing it on nine campuses.

The success of the project in developing interest throughout the system derives from an extensive communication program developed in the project which has included a newsletter and presentations to key faculty groups. The writing adjunct concept seems to lend itself quite well to various contexts and pilot tests, thus facilitating evaluation either on a campus basis or as a part of the multi-campus program. The project has served to raise fundamental issues including whether or not the disciplines other than English should share the burden of providing funding for adjunct courses. Marilyn Sutton, the Project Director, has asked: "Is not the entire college community responsible for the literacy of its students?"

While the idea of tutoring students in writing skills while they prepare their papers for, say, their course in American history is not new, the Writing Adjunct Project has served to focus experimentation and, through its multi-campus approach, to demonstrate a number of models. The network of composition instructors and faculty in other disciplines with whom they work is now extensive and seems to attest to the multi-campus nature of this project.

Latin American Media Project

The project features student media teams from one campus, Northridge, who assist students in Latin American studies programs at Los Angeles, Dominguez Hills, and Fullerton to produce films and other media-based projects. The multi-campus project, built upon a modest campus effort begun at Los Angeles, is resulting in the developing of new courses at the participating campuses which provide a cross-disciplinary experience for the students involved. The relative proximity of the campuses permits students and faculty to move from campus to campus, though this is complicated by the different calendars, two quarter and two semester system. The project has permitted the purchase of equipment for use by students on all of the participating campuses which probably could not have been purchased by each separately.

Experiencing History

A program of developing simulations for use in history courses, was undertaken with Fund sponsorship at Long Beach in 1974-75. In 1976-77 a three-campus project is underway to experiment further with the instructional approach. A special feature of the multi-campus effort is the joint participation of students from the three campuses in the same simulation by phone, by computer or in person. The geographical spread of the campuses, one north and two south, and calendar variation, two semester and one quarter system, have been problems which the project has had to overcome. Student and faculty responses to simulation, the inter-campus development of materials, and student exchange have been favorable to date. The project has enabled the experienced Long Beach faculty to assist others in using simulation as an instructional tool.

Interdisciplinary Center for Desert Studies

A grant from the Fund in 1975-76 enabled San Bernardino to develop a consortium of CSUC campuses in Southern California to plan the development of a Desert Studies Center on land owned by the federal government. The Center has been established and will be funded to a limited degree by the state, beginning in the 1977-78 budget. In this project the interests of several campuses could be coordinated, a common plan and program developed, and permanent funding secured.

Labor Studies: Program Development

Beginning in spring 1976 and continuing through this academic year, the Fund has provided support to the development of two degree programs to be located at San Francisco and Dominguez Hills, respectively. The programs are being planned jointly with the assistance and advice of community college and University of California representatives, and the curricula which are being developed will feature a number of nontraditional approaches to instruction. Fund support has permitted the joint planning to go forward at a level which would otherwise not have been possible.

Major Assessment Profile (MAP)

A San Francisco-based project, which included faculty consultants from ten campuses in the system, sought to develop agreed-upon competencies within the undergraduate degree program of political science. Thousands of concepts were identified from major texts used in the discipline which were, in turn, screened by a panel of political scientists to identify those which were essential for a political science graduate to know and those which were deemed less important. The primary purpose of the MAP Project was to permit the development of diagnostic examinations which would provide feedback to the student concerning his or her mastery of the most important concepts and to provide a mechanism through which individual campus programs might better assess their instructional program outcomes.

MAP, which could only partially be accomplished in the two years of funding, was successful in gaining participation from faculty on several campuses in the concept review process. Unfortunately political science departments have not shown much interest in the concepts, once identified and ranked. The cool reception may be due in some measure to a faculty concern, rightly or wrongly held, that adoption of diagnostic tests based upon the concept inventory might result in centrally administered competency examinations which would diminish program independence. However, as a pioneer effort in attempting to identify competencies at the level of the degree major, the MAP Program will likely have significant impact both inside and outside the system. In the short run the impact of the project beyond the San Francisco campus is likely to be limited until additional ways are developed to involve political science faculty from throughout the system more directly.

Mastery Learning in Mathematics

For several years faculty of the Mathematics Department at San Diego have experimented successfully with the use of mastery learning techniques supported by computerized test item data banks (SOCRATES). In 1975-76 a multi-campus project sought to extend the experience of the San Diego program – called the Mastery System of Instruction (MSI) – to three other campuses. Materials for individualized instruction and the computerized testing capability were made available for use at San Francisco, Hayward, and Fresno. The Hayward program (a mirror of the San Diego model) is continuing in an expanded form during the current year. At San Francisco the approach is in use in a modified form on a small scale. The program is not continuing at Fresno because of campus difficulties in making the physical space and workload adjustments required in the MSI format, a variation of the Personalized System of Instruction model.

The project provides another example in which an innovation begun on one campus with funding assistance can be transplanted to another, though not in every instance. The Project Director described the chief value to him as the benefits he gained from the informal discussion and work with faculty from other campuses. A dissemination workshop which was held in late spring 1976 may lead eventually to other adaptations, perhaps supported by the locally administered mini-grant programs or through existing resources.

Workshops for the Development of Self-Directed Learning Materials in Psychology

A conscious effort to disseminate a process rather than a product was the main focus of a multi-campus project supported in 1975-76 based at the Bakersfield campus. Faculty who had previously gained experience in creating modules for an introductory psychology course at Bakersfield as a part of a 1974-75 single campus project sought to introduce faculty from other campuses to the approach and to assist them in developing modules for joint use. Workshops and campus visits by the directors were designed to meet these objectives.

The project ultimately included six active participants from the Chico, Dominguez Hills, Humboldt, Long Beach, and San Bernardino campuses. Seven modules were produced and were partially evaluated. Presentations on modularized instruction to participating campus chairs were features of the project. Because evaluation of the project is not yet complete, substantive observations are premature. The faculty who engaged in the project, according to the directors, are making use of the modules developed in the program.

FACULTY RESPONSE TO MULTI-CAMPUS PROJECTS

Unless faculty see purpose and value to multi-campus cooperative efforts, there is little likelihood that the projects will have lasting impact and success. To supplement the record of experiences of the projects themselves, a questionnaire was sent to participants from nine of the fifteen multi-campus projects. Some 110 faculty received the questionnaire, with 51 responding. Results are summarized in Table 3 with a list of projects surveyed.

TABLE 3

EVALUATION OF MULTI-CAMPUS PROGRAMS BY PARTICIPANTS

(Responses to a Questionnaire, sent February 1977)

● N = 51 OF 118 QUESTIONNAIRES MAILED (NO FOLLOW-UP) ●

	Strongly Agree		Agree		Disagree		Strongly Disagree		No Response	
	N	%	N	%	N	%	N	%	N	%
1. I found participating in the multi-campus project professionally rewarding.	32	62.8	16	31.4	2	3.9	–	–	1	2.0
2. The opportunity to work with faculty from other campuses was useful and beneficial.	33	64.7	15	29.4	1	2.0	–	–	2	3.9
3. Funds can be better spent in single-campus efforts.	3	5.9	7	13.7	24	47.1	9	17.7	8	15.7
4. Course materials developed as a part of a multi-campus effort are superior to those developed by one faculty member working alone.	17	33.3	16	31.4	8	15.7	2	3.9	8	15.7
5. I learned a great deal about instructional strategies through the multi-campus project.	16	31.4	25	49.0	8	15.7	–	–	2	3.9
6. If I had the opportunity, I would participate in another project.	30	58.8	16	31.4	3	5.9	2	3.9	–	–
7. My instruction has improved as a result of the project experience.	15	29.4	26	51.0	5	9.8	1	2.0	4	7.8
8. Student response to my teaching has improved as a result of the project experience.	9	17.7	28	54.9	9	17.7	1	2.0	4	7.8
9. Project guidance provided from the CSUC Office of the Chancellor was sufficient.	10	19.6	29	56.9	7	13.7	1	2.0	4	7.8

TABLE 3 (Cont.)

	Increased a Great Deal		Increased a Moderate Amount		Stayed About the Same		Decreased a Moderate Amount		Decreased a Great Deal		No Response	
	N	%	N	%	N	%	N	%	N	%	N	%
10. How much has each of the following changed as a result of your participation in the project award programs?												
a. My status in my department	2	3.9	13	25.5	31	60.8	4	7.8	1	2.0	–	–
b. My effectiveness as a teacher	12	23.5	26	51.0	12	23.5	–	–	–	–	1	2.0
c. My sense of professional satisfaction	20	39.2	19	37.3	10	19.6	1	2.0	1	2.0	–	–
d. My general involvement in teaching improvement on campus	14	27.5	18	35.3	16	31.4	1	2.0	1	2.0	1	2.0
e. The extent to which I have been consulted by administrators and colleagues on the improvement of teaching	10	19.6	13	25.5	27	52.9	1	2.0	–	–	–	–
f. Student satisfaction with my teaching	7	13.7	20	39.2	19	37.3	–	–	–	–	5	9.8
g. The amount of faculty-student interaction in my course	10	19.6	19	37.3	17	33.3	1	2.0	1	2.0	3	5.9
h. My teaching style	10	19.6	22	43.1	15	29.4	–	–	–	–	4	7.8
11. To what extent has the project affected departmental, or other curricula on your campus?												
Positive Comment: 33												
Negative Comment: 13												
No Response/Not Applicable: 5												
12. Academic Rank of Respondees:												
Prof.: 14												
Assoc.: 23												
Assist.: 9												
Lecturer: 5												
13. Years in System of Respondees:												
1-3 yrs. 12												
4-6 16												
7-10 12												
11 or more 11												

Results of the questionnaire suggest that nearly all faculty (94%) find that participation in a multi-campus project is professionally rewarding and, if they had the opportunity, would participate in another project (90%). The chance to work with faculty from other campuses is almost universally seen as useful and beneficial (94%) and is cited as the most valuable aspect of the experience by most respondents. More than three out of four faculty (80%) agree or strongly agree to the statement, "I learned a great deal about instructional strategies through the multi-campus project," and a similar proportion thinks that their instruction has improved as a result of the project experience. Over seventy percent believe that student response to their teaching has improved as a result of the project experience.

Most faculty ascribed increases in their sense of professional satisfaction to project participation (76%) and thought that their effectiveness as a teacher was enhanced (74%). About half could identify some increase in student satisfaction with their teaching (53%) and could cite an increase in the amount of faculty-student interaction (57%). The majority believe that their teaching style has changed as well (63%).

Despite strongly favorable views of the project experience held by most of the responding participants, only about 25% of the faculty believe that their status in their department has been enhanced by project participation. The majority can identify no change, and 10% thought their status has in fact decreased – a matter of clear concern recognizing even the small number. On the other hand, almost half (45%) thought that the extent to which they have been consulted by administrators and colleagues on the improvement of teaching has increased with the project participation, and almost two thirds (63%) cited greater general involvement in teaching improvement on campus.

Many project personnel could see some positive effect of their project upon their department or elsewhere on campus – 63% noted some significant impact in responses to an open-ended question. On the other hand, approximately a third saw no meaningful effect.

Few faculty believe that funds should be spent in single campus efforts rather than multi-campus projects (20%), though some (16%) presumably indicated uncertainty by not responding (20%); nevertheless, 65% thought the multi-campus project a good use of funds. Are course materials developed on a multi-campus basis superior to those developed by one faculty member working alone? The majority thought so (65%).

As indicated above, the contact with other faculty from other campuses is seen as far and away as the most desirable aspect of the multi-campus project. This sentiment is echoed in nearly all responses to an open-ended question on the "best liked" aspect of the project. In fact virtually no other aspects were cited. "Least liked" aspects included paperwork, travel to other campuses, lack of assistance on issues such as copyright, inadequate released time, short grant timelines, little cooperation from department chairs, and coparticipants who did not pull their own weight. Faculty dissatisfaction followed no specific pattern.

Subject to limitations of the questionnaire and the percent of response, a picture emerges of a faculty member who finds the experience of working in a multi-campus project both professionally rewarding and having real impact on his or her teaching. However, significant increases in status with colleagues have not been perceived by the individuals themselves, despite the fact that the extent to which they are consulted on teaching approaches may well have increased. (One wonders if many faculty can, of course, very clearly evaluate their own image in the eyes of others unless they have just recently undergone a tenure or promotion review.)

Participants value very highly the opportunity to work with colleagues from their disciplines on other campuses. Their dislikes about the projects probably are idiosyncratic, but may stem from frustrations of paperwork and logistics more often than not. The high percentage who believe that they would participate in another multi-campus project is perhaps the most significant information which this survey brings to light.

INTER-CAMPUS COOPERATION AS A WORKABLE CONCEPT

An outsider to higher education might well wonder why special circumstances and incentives are required to create situations in which cooperation among campuses can go forward. Similarly, an outsider might think it extraordinary that new ideas, even if proved sound, are not simply and directly transferred from one college to another without careful planning and assistance, usually requiring extra effort and money. The facts are, of course, that higher education is no different from any of society's institutions. In higher education, as in business and as in government, cooperative effort must overcome the inertia of individual routine and tradition.

In the foregoing, several efforts to deliberately encourage inter-campus cooperation have been reviewed along with reactions of some of the participants to those experiences. Four assumptions or rationales underlie these experimental efforts: 1) that faculty have much to learn from one another; 2) that inter-campus cooperative projects could disseminate the resulting successful innovations; 3) that emphasis on *process* rather than a *product* in the projects would minimize traditional barriers to inter-campus cooperation, and 4) that faculty can be brought closer together within a system of higher education by addressing instructional issues in a multi-campus project context.

Has experience to date proved any of these rationales to be misdirected or faulty? The weight of the evidence seems to support their validity. Participants in multi-campus projects find that their most significant experience in the project activity is the opportunity to meet and work with other faculty from other campuses. Formal project reports repeat this theme. Based upon this personal and professional dimension, it seems to follow that the result of these generally satisfying faculty contacts should be the closer ties among faculty within the system and that the projects should serve to unite campuses upon instructional issues.

The results of single campus-based innovations were successfully disseminated and embedded upon other campuses through multi-campus projects; the nursing, geology, and mathematics projects are good examples. In at least one instance, the innovation was transplanted to take hold at a new campus, while it failed to flourish where it first began. The greater numbers of faculty involved in most multi-campus projects and their own contacts with colleagues on an informal and formal basis, no doubt, have led to a spread of ideas and intellectual stimulus seldom possible in a single campus-based effort.

Most successful projects engaged faculty through the development or adaptation of instructional materials rather than by passive acceptance of materials previously prepared. Faculty seem willing to make use of materials created in the project if they have participated in their development. They appeared to be less satisfied with the two projects in which previously prepared materials were extensively used and in which the preparation of new materials by participants was not the primary focus.

This review, in addition to giving support to the rationales for the multi-campus dimension of the CSUC Program for Innovation, leads to several conclusions which may be useful to those engaged in multi-campus efforts or who are considering developing them.

Logistics is an important consideration in multi-campus projects which require close and continuous contact among faculty participants and students. Some kinds of multi-campus projects should involve only universities within easy driving distance and, in other instances, only when adequate support for travel can be provided to permit the interaction needed. In the CSUC system, at least, the variation of calendars among campuses is another factor which must be taken into account in project planning.

The *number of institutions* in projects in the CSUC experience has run the gamut from fourteen to two. There seems no optimum number; but if there should be an optimum, it is most probably dictated by the kind of project and the basis upon which it is built. Projects which concentrate upon the joint development of curricular materials may well be at an optimum with three or four campuses participating. Two campus efforts may result in two separate projects, codirected, but in three or four campus situations the number of participants increases opportunities for a division of labor, greater diversity of ideas, and a stronger feeling of a significant endeavor. A large number of campuses complicates logistics and coordination and may lead to a breakdown in communication; however, these disadvantages of size must be weighed against the opportunity to involve more faculty and departments. The Nursing Project and the Writing Adjunct Program have, in great measure, proved the feasibility of engaging successfully the resources of a number of campuses.

A multi-campus project requires able *leadership*, and because of the inter-institutional nature of the program, project directors should have some degree of prestige among colleagues and the other individuals upon whose support the success of the project is dependent. The academic rank of multi-campus project directors, therefore, is perhaps more important than in single campus-based ventures. If the director is a junior faculty member, then the backing by key deans and department chairs seems essential. Experience on one or two projects suggests that designation of codirectors, while useful in development of proposal plans, makes actual project administration and coordination less effective. One individual must clearly be responsible for administrative detail, the time schedule, deadlines, reporting, and dissemination. That assignment, of course, can rotate over the life of a project, especially in multi-year programs.

It was apparent from the outset of the program that multi-campus projects which spring from a prior *single campus test* seem to move forward more quickly and effectively than those which do not. Nursing, geology, mathematics, and the writing adjunct projects are examples. Beginning a project *de novo* requires a period of orientation and gestation. There is the added risk that if the basic idea proves faulty, a more costly failure is recorded than if the concept had been tested in a smaller version. The tendency, however, to simply extend the single campus project in its original form without permitting the other campus faculty opportunity to critique, improve, and adapt materials must be guarded against if the project is going to be a real success.

The multi-campus project *spotlights innovation* and instructional improvement to a much greater degree than is possible in a single campus project. Certainly the simple fact of participating in a grant seems to have a positive effect upon a participant's prestige among colleagues in respect to his or her understanding of learning approaches (though not necessarily a positive effect in the promotion and retention process). Participation in a multi-campus activity carries with it additional prestige. The multi-campus project because of its nature and organization can reach several departments or programs simultaneously with information about the instructional innovation which is the central focus of the project. Newsletters, workshops, or a circuit-riding project director can serve to draw attention to the program. A single campus-based project has a far greater difficulty, it seems, in having impact on other campuses, even though extensive dissemination activities may be undertaken. It should be noted, however, that the single campus project in some circumstances can have greater impact on its own environment than the multi-campus project which, because of funding limitations, may only give minimal support to its member-campus programs.

Campus support for any project is, of course, essential if a reallocation of resources or curricular change is required to carry on the project benefits after special funding has ceased. There is a tendency for administrators and faculty to treat projects based solely on their campus as their own while viewing in a different light projects in which their faculty participate along with faculty from other campuses. The differences are subtle, but they may prove potent when decisions are made concerning the allocation of next year's faculty positions and support monies. We tend to defend that which is ours in the face of that which may be seen as foreign. In this context the status and prestige of the faculty participants are most important.

Evaluation of methods of improving instruction is always difficult since criteria and data are usually lacking about the effectiveness of the traditional program. Basic orientation points are lacking for much of postsecondary-level education. Granting the inherent problems of evaluation, the multi-campus project offers, both in scale and in opportunities for comparison, a much greater potential for meaningful evaluation. The multi-campus project makes the securing of outside evaluators proportionately more economical. Individual campus experimentation within the multi-campus effort can be placed within the overall mosaic of total project evaluation to determine similarity of findings as well as dissimilarities. Finally, evaluation results should have greater significance and meaning because of the inter-campus, inter-departmental nature of the project.

The *cost* of multi-campus projects obviously is an important factor in determining whether such efforts should be entertained or, perhaps, in determining a priority list of the kinds of programs which should be undertaken. The CSUC projects have ranged in special funding costs from a few thousand dollars to nearly $300,000 for three years funding of the Nursing Project. True project dollar cost, let alone human cost, is difficult to determine. Departmental contributions, campus support, volunteer help, community assistance, and other forms of support would enter into the calculation. A project which received limited special funding may be in fact costly in other ways or vice versa.

A rigorous cost-benefit analysis is not only difficult from the cost side, but doubly difficult from the benefit perspective. The total benefit of the independent learning modules in nursing cannot be assessed in the short term. The benefit of the Basic Writing Skills Project may be found more readily in other projects and spinoff results than in the residual of the project itself. A central question is the value to be placed upon increasing faculty expertise and professional satisfaction, which seem to be among the chief benefits of projects cited by participants.

While a rigorous analysis is too complex for this summary, if indeed it is possible, some rough generalizations can be proposed:

- A multi-campus project probably should not be undertaken if logistics are complicated and outlay to deal with them is disproportionate to that required if the same project were funded by a grant to each individual campus designated to participate in the multi-campus project.

- The discipline, readiness for change, innovation or improvement involved, and number of students must be weighed in terms of the cost outlay. A large investment which has potential impact on large numbers of students may be well worthwhile. A similar investment which will affect few faculty or students – even if the project is unique – may be of far lower priority. Nevertheless, it is true that a demonstration project, even if costly for the few students who directly benefit, may lead to future adaptations in areas where greater impact may be felt.

- In a program strategy in which several projects can be supported, it may be well to fund some of direct benefit to substantial numbers of faculty and students while also supporting a few projects of presumed longer-term impact and which might involve some degree of risks. The MAP Project described earlier might be an example of the latter case. As a general rule, it must be remembered, the multi-campus project may be a costly way to experiment with a wholly new approach or concept. It seems best, and less costly, to experiment initially in a single campus-based project.

- The cost of multi-campus projects seems warranted from all evidence, particularly when it involves the dissemination of a process which is of interest to a substantial number of faculty. Though tangible materials or products may be involved, the process or technique should be the main focus of the effort.

- All change has a cost. Indeed there are often incremental costs to staying the same and doing the same. If the intent, as it has been in the CSUC Program, is to encourage constructive change and reform, then the cost of the multi-campus campus projects is justified because of their advantages to greater numbers of faculty than single, the opportunity to influence more than one department and the potential to create new programs at several campuses in a short period of time.

3

FROM SMALL BEGINNINGS:
The Mini-grant Program

by John M. Smart

The first two years of the Program for Innovation and Improvement in the Instructional Process focused solely upon project grants resulting from a systemwide competition. While this approach enabled the Program to sponsor significant projects with implications for the system, a comparatively few faculty could participate directly. To expand opportunities for faculty, a campus-administered small grant program was launched as a part of the overall effort. Beginning in 1974-75 and continuing into 1976-77, a total of $207,500 was divided each year among campuses according to enrollment, with small campuses receiving $7,500, medium-sized ones $10,000, and the largest, $15,000, apiece. These funds, though admittedly modest, have enabled the campuses to support faculty on their campuses in much the same manner as the systemwide competition. A limitation of $2,500 per grant assured that substantial numbers of faculty could compete successfully and secure assistance for projects similar to those funded in the system competition, though on a smaller scale.

Campuses have adopted their own procedures for calling for proposals, reviewing them, and making awards. In most cases a campus committee, representative of faculty and administration, reviews the proposals and selects those to be supported. In a few instances the mini-grant monies are supplemented by other university funds – usually obtained from external grant overhead – thus increasing the number of opportunities for faculty. Coordination of the mini-grant program is the responsibility of the Campus Coordinator for Innovation.

At the urging of the Campus Coordinators and in light of the response to the mini-grants, the program is scheduled to grow in dollar amount in 1977-78 to $332,500 provided through the State-appropriated Fund for Innovation. Inflation, and the desire to provide for faculty assigned time as a part of the grant, have led to the decision to increase the maximum for each mini-grant to $5,000. Allocations for each campus also will be adjusted.

During the three years of the mini-grant program, reports on each project have provided the opportunity to obtain an overview of the activities undertaken. Abstracts of each project are available through the computerized data base developed by the University of California to faculty in both systems for reference along with UC projects and those from the CSUC systemwide competition. Project titles for mini-grants awarded in 1975-76 and 1976-77 are included in Appendix C. The *Challenge of Creative Change* provides a list of 1974-75 awards.

Program Statistics

In the three years of mini-grant competition more than 400 mini-grants have been awarded on the nineteen campuses in the system. Yearly totals show:

1974-75	170
1975-76	166
1976-77	147*

*Estimate

Most projects, if they directly relate to course redesign, are fully implemented by the fall following the academic year of the award. In their final project reports prepared in the summer, project directors estimate their fall enrollments in the courses or programs affected by the mini-grant. Reports on 1974-75 projects indicated that some 16,000 students were served in grant-related courses in fall 1975, and for 1975-76 projects, the estimate totaled 15,782 students. The projects funded in 1976-77 are projected to serve some 18,000 students in fall 1977.

Mini-grant projects involve many of the same kinds of instructional improvement activities as the systemwide grants. In some instances they represent an adaptation of a previously supported project in the systemwide program on another campus and, in this sense, certain mini-grants reflect one of the primary objectives of the overall program, namely the extension and dissemination of proved processes and techniques. A classification of grant projects for the three years of the mini-grant program is shown in Table 5. This shows some shift toward media-oriented projects and a decrease in projects primarily directed to the development of modules for self-paced learning.

An examination of the mini-grant discipline areas in Table 6 discloses a variation in the years among the disciplines in interest in the program (or at least successful proposals). A comparison of student enrollment by discipline area and mini-grant projects suggests that professional and occupational programs have been somewhat under-represented in the last two years while mathematics and science have been comparatively over-represented.

Grants made through the program are usually comparatively small, being devoted to supplies, materials, and student assistance, and only rarely faculty assigned time. The distribution of grants for the three years of the program is shown in Table 4.

TABLE 4
MINI-GRANT DOLLAR AMOUNT
1974-77

	1974-75		1975-76		1976-77	
	Number	Percent	Number	Percent	Number	Percent
$0-500	46	29.7%	35	21.7%	31	22.8%
501-1,000	36	23.2	51	31.7	44	32.4
1,001-1,500	26	16.8	30	18.6	15	11.0
1,501-2,000	25	16.1	12	7.5	18	13.2
2,001-2,500	22	14.2	33	20.5	28	20.6

TABLE 5

MINI-GRANT PROJECT FOCUS

Focus	1974-75 Number	1974-75 Percent	1975-76 Number	1975-76 Percent	1976-77 Number	1976-77 Percent
Use of media	39	25.3%	45	27.1%	44	32.4%
Modularized course	25	16.2	21	12.7	12	8.8
Use of computer in instruction	14	9.1	9	5.4	14	10.3
Independent study	12	7.8	14	8.4	9	6.6
Curriculum development	10	6.5	12	7.2	7	5.2
Faculty development	8	5.2	4	2.4	8	5.9
Assessment of competencies	5	3.3	9	5.4	6	4.4
Equipment	5	3.3	4	2.4	10	7.4
Research in instruction	4	2.6	4	2.4	4	2.9
Peer instruction	4	2.6	5	3.0	1	0.7
P.S.I.	4	2.6	3	1.8	2	1.5
Learning laboratory	4	2.6	6	3.6	2	1.5
Advisement	3	2.0	1	0.6	4	2.9
Miscellaneous	14	9.1	27	16.3	13	9.6
Unknown	3	2.0	2	1.2	–	–
Totals (Grants Made)	156 (170)	100.0%	166 (166)	100.0%	136 (147)	100.0%

TABLE 6

MINI-GRANT DISCIPLINE AREAS*
1974-77

Discipline Area	1974-75 Number	1974-75 Percent	1975-76 Number	1975-76 Percent	1976-77 Number	1976-77 Percent	Student Enrollment in Degree Programs By Area Fall 1975
Professional and Occupational	42	26.9%	30	19.6%	26	20.2%	33.9%
Humanities	41	26.3	35	22.9	25	19.4	12.3
Science and Mathematics	33	21.2	44	28.8	34	26.4	8.8
Social Science	15	9.6	18	11.8	28	21.7	21.3
Multi-disciplinary and General Education	6	3.9	10	6.5	6	4.7	3.9
Physical Education	3	2.9	3	2.0	3	2.3	10.8
Education	15	9.6	13	8.5	7	5.5	9.1
Unclassified	1	0.6	–	–	–	–	–

*Excludes university-wide grants in career advisement, career education, etc. In 1974-75 and 1975-76 these number 13 for each year and 7 in 1976-77.

The continuation of mini-grant projects beyond the funding year occurs in approximately the same proportion as in the systemwide grant projects described elsewhere: 85.7% continuing of the 1974-75 projects and 82% of the 1975-76. Some projects were not continued because they failed to meet objectives, or results led the project director to conclude that the method or approach used was undesirable or too costly. Departure of faculty, lack of departmental support, or changes in curriculum are other reasons for noncontinuance.

Mini-Grant Projects

A recitation of statistics on the program does little to convey what the program has succeeded in accomplishing – indeed any overview is difficult to present when over 400 individual projects are considered. A sampling of the kinds of activities which have benefited from a grant does give some perspective, albeit brief.

Consider, for example:

- A General Education Science project entitled "Access to the Earth" involved the development of modules in general geology, with each module having: (a) theory and terms needed for the application, (b) a list of applied questions, (c) a series of investigations, and (d) a role-playing exercise (Fresno).

- In career planning a mini-grant helped to support the development of some forty career monographs which detailed opportunities in a number of majors. The monographs, prepared mostly by members of the faculty and edited by the project director, described various careers, the majors that lead to them, and the employment outlook for each together with personalized statements of how recent graduates in each major are doing (Fullerton).

- In anthropology a mini-grant project compared existing sets of maps recording information about archaeological sites in Orange County. Students in the project visited the sites and prepared new, more accurate maps as a result. The newly developed maps will be used in future field work in the program (Fullerton).

- A computer-based project included the design of simple computer programs to enable students to simulate processes of change over time in gene frequencies in human populations. Through this methodology the project developed a teaching format to make the biological and social processes involved in human evolutionary studies more comprehensible to undergraduate students (Hayward).

- A mini-grant permitted the development of a unique course spanning physiology, developmental psychology, linguistics, and other disciplines for use by students in language studies. Such a course could not otherwise be offered in the regular curriculum, but is of substantial interest to selected students (Humboldt).

- In-service training of English composition instructors enabled faculty to discuss, generate, and share ideas about more effective teaching of English composition, particularly to college freshmen. The project is continuing under campus sponsorship (Long Beach).

- Twelve videotapes were produced for use in a course entitled "Business and Society." The tapes, developed in cooperation with the Los Angeles Area Chamber of Commerce, featured business leaders and other experts. The project was later expanded under the system program. Tapes are now available for use at all campuses (Los Angeles).

- Television tapes will be used to teach a course in kinesiology. These enable students to visualize man in motion from an anatomical point of view (Sacramento).

- Videotapes are used for diagnosis and assessment of competency for a course in counseling education (San Bernardino).

- A faculty development project presented, demonstrated, and explained eight new models for teaching languages. The faculty involved in the training program were those in foreign language programs and teachers of English as a second language (San Diego).

- A learning lab, using programmable calculators, was established as part of a mini-grant. The project findings concluded that relatively less sophisticated equipment was as satisfactory as more complicated units (San Francisco).

- A chemistry audiovisual program enables unprepared students to overcome deficiencies so they may catch up with their fellow students in such subjects as basic mathematics, chemical calculations, and basic laboratory techniques (San Francisco).

- A course in business, dealing with manpower administration, was designed to allow independent study. Had this not been the case, students would have been unable to take such a course because of limited staffing (San Jose).

- A programmed, self-paced learning system was developed for presentation of Japanese ideographs to assist students studying the Japanese language (San Jose).

- A project in career advisement included a survey of over 1,000 potential employers in the public and private sector to determine their interest in hiring students in history and the humanities. Particular attention was given those employing graduates in these areas to determine their particular strengths and weaknesses on the job. Findings of the survey are leading to curricular changes (San Luis Obispo).

- The reading level of students in freshman classes is being assessed and self-study packets are being developed to enable instructors to assess the readability level of text material in their courses. Alternative methods of instruction for difficult texts are being suggested (Fullerton).

- Twenty self-selected teacher education faculty are participating in a nine-day seminar funded by a mini-grant designed to increase their knowledge of multicultural/multilingual issues. The seminar includes a role-playing bussing experience (Northridge).

- Videotapes have been developed of business, industry, and professional leaders discussing the importance of language skills for the employee (Pomona).

- Modules including slides, maps, and aerial photographs are being developed to enable students in geography courses to take simulated trips in northern and central California (Long Beach).

- An instructional film to demonstrate a plant breeding technique for alfalfa is being developed for use in a crop science laboratory course (San Luis Obispo).

Implications of the Mini-Grant Program

The CSUC Mini-Grant Program has enabled many more faculty to become involved in instructional improvement activities than possible in the larger systemwide grant competition. For the most part, mini-grant projects are relatively small in scope and are usually focused upon a single course.

Though the mini-grant and systemwide competitions are administered separately, there are many instances where they have been mutually reinforcing. There is some evidence to show that mini-grant projects have been proposed by faculty who became interested in efforts begun as a part of a system grant, perhaps on another campus. In other instances, a mini-grant has led to a larger proposal subsequently funded in the systemwide competition. Still other mini-grants are more limited versions of proposals submitted to the system competition and not funded.

The mini-grant program has given the campus a greater role and an expanded sense of participation in the overall Program for Innovation. Campus committees become familiar with new ideas as they review proposals; Campus Coordinators may take on an activist role in stimulating proposals and assisting project leaders in developing their projects. Continued association of the mini-grant program with the centrally administered Program for Innovation provides the benefit of broad general guidelines for the activities to be supported and facilitates the disseminating of and reporting on project grants and results. Campus responsibility for the grants and their administration has proved effective and efficient.

It is true that not all projects funded in the mini-grant program would be considered by some standards to be either innovative or significant. The stage of a campus in revitalization of its instructional programs may be reflected in the kinds of proposals received and those funded. Also the dominant campus disciplines may be reflected both in the academic area of projects and in the use of specific techniques and approaches which are more common and familiar to faculty in those disciplines, e.g., a campus with strong science departments may tend to emphasize projects and techniques in the scientific subjects. The interest and personality of the Campus Coordinator, the influence of other project directors, the impact of steady and declining enrollment, and many other campus environmental factors may well shape the scope and type of projects funded by a given campus. Indeed the mini-grant program and the forces which shape it may well prevent the Program for Innovation from itself becoming tradition-bound and overly committed to a narrow list of instructional approaches.

CHANGING CURRENTS IN THE SYSTEM

PART TWO

4 DESIGN FOR RENEWAL:
Professional Development in the CSUC

by David H. Ost

Background

Programs of professional development are a phenomena of the 1970s. Decreased faculty mobility, declining student enrollments, increasing demands for diminishing resources, changing student populations, and faculties who are largely tenured have had significant impact on higher education in this decade. Like society as a whole, higher education is becoming cognizant of the fact that its resources are finite and that renewal and recycling efforts are essential.

Changes in higher education have brought many unique problems. For example, many faculty members who were trained as researchers now find themselves in institutions where the emphasis is on teaching. This mismatch or misplacement may cause them to be frustrated with the environment in which they find themselves because it is inconsistent with their initial long-term career goals. Their basic needs as they perceive them seem to go unfulfilled and their dissatisfaction interferes with their ability to interact effectively with students, colleagues, and members of the community.

Faculty dissatisfaction and other problems of the 1970s have forced higher education to come to grips with problems that have long been ignored. It has become clear that renewal is needed in the system, in the institutions and in individual faculty members. There is little evidence that traditional programs designed to maintain faculty vitality have much effect on teaching excellence. For example, sabbatical or research leaves contribute primarily to increasing the faculty member's knowledge of an academic subject and research skills. Teaching effectiveness is a function not simply of knowledge but of skill in teaching, recognition of the variety of students' learning styles, and personality characteristics. All contribute to the environment in which the instructor functions and in which the student learns; opportunities must exist for a faculty member to develop all dimensions of his or her role in the classroom.

Through programs of professional development higher education has begun to respond to the problems of renewal associated with teaching effectiveness, faculty needs, and instructional maintenance. These are not new concepts. Leaders in industry and business who realize that investments in people are essential to a dynamic company or corporation have long had such programs. Only in recent years has higher education taken systematic steps to address these problems of renewal. Programs have begun to be instituted to assist faculty to identify areas in which performance might be improved and to provide means for producing this improvement. These foster development in such diverse areas as instructional uses of the computer, applications of audiovisual materials and processes, and improvement of lecture and discussion techniques. In addition, increasing numbers of programs are giving attention both to organizational development within the institution and to the personal development of the faculty.

The idea for creating the CSUC Center for Professional Development originated with the experience of the Fund for Innovation and Improvement in the Instructional Process. Evidence from pilot projects designed to test the value of a variety of nontraditional approaches to teaching and learning revealed that no matter how enthusiastic the faculty member might be about trying alternatives to the usual lecture/laboratory format, he or she often was ill-equipped to carry it out. The reasons are not too difficult to find. Most faculty have been educated in traditional institutions; they have themselves been taught in classrooms where the fixed lecture was standard, and the doctoral programs from which they graduated offered them little training in how to teach. To encourage innovation on the campuses, it was clear that faculty members would require assistance.

The CSUC Center was established in 1974 to assist individual campuses in developing autonomous programs of professional development. It identifies appropriate resource personnel for campus programs, brings together representatives of various campuses with common problems, secures external support, assists campuses in the design of programs, and serves as an information clearinghouse for all campuses in the system.

A systemwide agency like the Center can most easily facilitate interaction among the campuses. It is common to receive a request for information about professional development from one of the campuses that have no such program. When it does, the Center arranges for a faculty member from a campus with a well-established program to visit with faculty and administrators who are interested in instituting a center on their campus. He or she shares what has been learned from the experience of his or her campus with professional development. The Center further links the campuses by providing representatives the opportunity to visit ongoing programs.

Perhaps the most important work of the Center during the initial phases of its evolution has been to collect data about the various campus-based programs. Only from a systemwide perspective can similar problems be readily identified and solutions to them documented. Although campuses have similar difficulties in establishing programs, the problems are not identical. The political milieu as well as the size of the institution or the faculty differs. The Center is better able to recognize the range of solutions within the context of the campus settings.

The Center is also in a position to help campuses draw on system resources. It attempts to make information about the numerous efforts related to professional development housed in different agencies within the system available to the campus program directors as well as the faculty at large. It encourages experiments to integrate different systemwide programs on the local campuses. And it monitors efforts to determine their effectiveness.

Financing

Support for the Center and selected campuses has been provided from three sources. Approximately $300,000 was made available through a three-year grant from the U.S. Office of Education's Fund for the Improvement of Postsecondary Education (FIPSE). These monies were used to finance the Center's central office operations. An additional $300,000 (approximately $100,000 annually) was allocated by the CSUC Fund for Innovation and Improvement in the Instructional Process to pay for staff to operate the programs of the associated campuses. At least $300,000 in support staff, travel, reassigned time, and other services has been given by the campuses to underwrite local efforts.

Administration

The governing body of the Center is a Policy Board composed of one representative appointed by each of the nineteen campuses, one nominee of the Statewide Academic Senate, three student representatives, a representative of the Faculty and Staff Affairs division of the Chancellor's Office, the Dean of New Program Development and Evaluation, and the Vice Chancellor for Academic Affairs. This Board determines and approves policy and general operating procedures for the Center and develops and/or approves guidelines and criteria for participating institutions.

Because the Board is necessarily large, authority to make policy for the Center has been delegated to a Steering Committee. It is composed of four campus members from the Policy Board, one of whom is the chair; the Statewide Academic Senate representative; the representative from Faculty and Staff Affairs; and the Dean of New Program Development and Evaluation. The Center staff report to both the Policy Board and the Steering Committee and receive advice and guidance from them. Staff do not vote, but attend all meetings of both bodies.

The Policy Board had an especially important role during the establishment of the Center. Since its purpose is to assist individual campuses in developing local programs of professional development, it was important that its policies be a result of consultation with campus representatives. These board members served as a communication link with campuses, selected the campuses to be supported through the Center, and provided a mechanism to foster interest on their campuses in the Center.

Appendix E details the procedure by which six original campuses (Bakersfield, Chico, Fresno, Northridge, San Bernardino, and San Jose) were chosen to receive support. Because of the delay in identifying the campuses to be associated with the Center, activity did not begin until January 1975.

After eighteen months of operation the Chico campus determined that it no longer needed full support from the Center to carry out its program. When half of the resources for 1976-77, formerly devoted to it, were released, the Center could then support a program at a seventh campus, Fullerton, in accord with the original plan to involve other CSUC campuses as funds became available.

The system effort had specific objectives relative to three aspects of professional development — instructional development, faculty development, and modification of the teaching/learning environment. These are shown in Table 7.

The Center worked with each of the campuses selected to collect data about these three areas. Strategies for achieving them vary from campus to campus. They represent the systemwide effort and do not reflect the program on any given campus. The goal of the Center is to gather information concerning the successful techniques and mechanisms employed by the campuses in attaining the objectives of their respective programs. Such information is useful to other institutions as they consider initiating programs of professional development.

Although the operation of faculty development programs must, by their very nature, be campus-based and campus-run, a structure that will stimulate, foster, and provide general assistance to campus efforts is necessary. The Center for Professional Development provides that structure.

TABLE 7

OBJECTIVES OF PROFESSIONAL DEVELOPMENT

Instructional Development efforts assist the faculty members to:

Clarify and define attitudes, values, and assumptions regarding the teaching/learning process;

Define specific measurable objectives for both the intellectual and personal development of students;

Design and develop alternative learning materials, activities and experiences appropriate to the objectives for students with various types of learning styles, utilizing, wherever possible, campus resources for the improvement of teaching;

Conceptualize and define teaching styles and experiment with new techniques and methods consonant with their style and appropriate to their objectives; and,

Develop alternative evaluation procedures to determine the extent of student accomplishment and teacher effectiveness, including the utilization of feedback from students and colleagues.

Faculty Development efforts assist the faculty members to:

Identify and clarify their attitudes, values, goals, and aspirations, and evaluate their personal, instructional and curricular programs and organizational roles in light of these values and goals;

Identify areas of personal and professional strengths, which can be maximized in their work, and areas which need to be improved;

Improve interpersonal and communication skills in order to interact more effectively with students, colleagues, and others;

Develop attitudes favorable both to creative instructional innovation and experimentation and to continued ongoing personal and professional development;

Provide opportunities for the facilitation of self-awareness and the self-concept;

Foster career development and life-long learning experiences; and,

Increase knowledge by participation with colleagues of the issues and problems of higher education in general and the teaching/learning process in particular.

Environmental Modification efforts assist the members of an institution to:

Clarify and define organizational goals;

Develop policies, practices, and procedures designed to achieve goals, particularly those relating to teaching and learning;

Develop evaluation procedures to assess attainment of institutional goals;

Clarify and define attitudes, values, and assumptions regarding the management of their organizations;

Identify and develop the effectiveness of various leadership styles;

Develop management policies and procedures that are responsive to individuals with varying work styles and temperaments;

Develop campus policies and procedures to encourage, facilitate, and reward faculty for teaching effectiveness and efforts to improve instruction;

Develop reliable and acceptable procedures for evaluating the quality of teaching; and,

Create an environment which will contribute to the enhancement of CSUC system policies supportive of efforts to improve instruction.

OVERVIEW OF CAMPUS PROGRAMS

The seven* campuses funded range from large metropolitan universities with student enrollments of over 20,000 to small campuses serving 3,000 students in semi-rural settings. Each has a program designed to accommodate local needs and problems. In a real sense, each of the campus projects is a pilot or model and is viewed as such.

Bakersfield

Bakersfield established its initial operation around four goals: (1) to assist faculty in the development of instructional strategies, (2) to involve students in the improvement of teaching, (3) to encourage individual growth of faculty, and (4) to assist faculty members in finding external sources of support for professional development.

As the program evolved, the members of the campus Steering Committee for the project assumed important roles in personal development, curriculum change, improvement of instruction, and leadership training. Retreats which focused on self-awareness and its relationship to teaching as well as career and life-long planning have been held.

Although focus on personal development has continued, major emphasis has been placed on instructional development. Workshops on a variety of teaching techniques, learning, and evaluation are regular features. One approach to instructonal development is the use of a self-assessment by means of videotaping and analysis checklists. Seminars in which faculty, administrators, and students gather to discuss problems and issues of higher education encourage awareness. These activities represent the wide range of professional development avenues open to the faculty.

Chico

This campus project is designed to test a single element of a comprehensive model of professional development. Its focus is on organizational renewal through the administrative structure. It seeks to assist deans and department heads to gain a better understanding of professional development. It is assumed that the department chairs are the key agents by which effective faculty development programs can be implemented on the Chico campus.

Monthly, day-long seminars for deans and chairs afford the opportunity to share general information and to discuss problems. In these the participants become familiar with the informal procedures of the institution and alternative approaches to policy making. The program is designed to help participants define their respective roles and to recognize that one of their responsibilities is to encourage faculty development. As in any role redefinition the program's objectives are more affective than cognitive. This project is becoming more closely integrated with other programs of professional development sponsored by the University which include efforts related to instructional improvement and programs for faculty development. When external support ends, the campus will support the position of Coordinator of Professional Development.

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*Prior to 1974 New Program Development and Evaluation assisted the Long Beach campus in establishing a program of faculty development. It is now supported by campus funds.

Fresno

Fresno's Faculty Development Program was conceived to further the University's efforts to facilitate faculty growth in teaching and research to make them more versatile, and to improve student advising. The program is somewhat complex, involving many people in interdependent roles and having several goals.

Workshops, seminars, and retreats have been used to assist the faculty and administration to develop teaching and research skills, educational technologies, and a spirit of excitement about education. A Faculty Fellows Program has been created to provide an ongoing dialogue and to design and implement professional growth efforts of the University. Faculty development needs and policies continue to be studied by several university committees and administrative officers; their efforts also focus on promotional procedures, sabbatical leaves, as well as peer and student evaluation of instruction. The program provides for a continuous examination of the professional development needs and problems of the University.

Fullerton

A statement of the Faculty Council expresses the goal of CSUF's Faculty Development Center as fostering "faculty excellence" and providing "services for those faculty who believe their own teaching, instructionally related research and other professional activities may benefit from various kinds of interaction with their colleagues."

A Board of Directors, composed of faculty members and administrators, extends this broad policy. Involving both faculty and administrators, the Fullerton Center seeks to create a cooperative climate in which control and direction are shared. The day-to-day operations are the responsibility of the Center's director.

The primary purposes of the Center's activity during its first year were: to identify perceived faculty needs, to identify internal faculty and administrative resources, to create a climate of acceptance through communication with key faculty organizations such as the Faculty Council, to mount workshops to meet perceived needs of faculty, and to develop an operative philosophy for the Center.

The future of the Center lies in offering opportunities to faculty which require a longer and more intense commitment. Short programs with wide appeal will, of course, continue to be offered. These will serve both personal and professional faculty goals. Additional faculty resource people representing several schools will help the campus program carry out its mission. In addition, these faculty members will bring new ideas, innovations, and expertise not formerly available to the Center.

As a result of this specific program, it is expected that individual faculty members will better understand and appreciate the ways in which the Center can help them in both their teaching and personal development as well as in their relationship to the University.

Northridge

The Institute for the Advancement of Teaching and Learning is a multidimensional, experimental organization concerned both with institutional and faculty renewal and with instructional improvement. The organization is composed of and directed by faculty of California State

University Northridge. Although it exists principally to serve CSUN, the results of its work are documented to be shared with colleagues elsewhere.

Six major programs and activities illustrate the multidimensional character of the Institute. The most important of these is the Seminar Program for Fellows. The fifteen Fellows of the Institute meet together weekly to engage in a wide variety of other activities ranging from individual projects involving both theoretical and applied studies of teaching and learning to group study of both the ideal and the actual states of higher education. Secondly, the Institute conducts an interdisciplinary Faculty Seminar Program in which up to twenty-five faculty attend discussions focused on specific issues over a ten-week period. Thirdly, several Saturdays are set aside each semester for the Faculty Gathering Program. On these days, fifty to sixty faculty from a variety of disciplines meet to discuss various topics in a spirit of collegiality, community, and concern for the University. Fourthly, the Statewide Conference Series consists of two-day programs attended by faculty from throughout the state who come to CSUN for the study of issues having a bearing on teaching and learning. The Teaching Consultation Service is the Institute's fifth program. Here, the Institute attempts to provide congenial settings and individualized services for faculty who desire to enhance their teaching skills. Finally, through the publication of *Faculty Dialogue* the Institute attempts to develop among the faculty a written exchange of views on subjects of shared concern.

The Institute is a flexible organization, principally because it exists independently of, but with many direct lines of communication to, the established University structure. This arrangement allows the Institute to pursue those projects which promise to advance its aims but for which there are no established means to develop.

Finally, the experimental nature of the Institute is chiefly due to the fact that its participants take seriously the thesis that higher education is a field of study, yet to become a discipline. It is hoped that through careful observation and intensive evaluation of a series of faculty-oriented activities on one campus, it will be possible to draw some useful, general conclusions.

San Jose

The major purpose of this project is to assist interested faculty members to engage in instructional development activities. In order to satisfy this purpose, the project is directed toward three related objectives:

- To develop diagnostic self-appraisal procedures and forms that could be used voluntarily by faculty members to identify the needs or interests in areas of professional development;

- To develop and produce a number of resource units which relate to the various areas of professional development and which provide for alternative modes of involvement; and

- To develop strategies for program experimentation and implementation.

Faculty have expressed most interest in: lectures, discussions, self-paced learning, tests and evaluation, and instructor-student rapport. Modules which have been or are being developed include: setting objects, constructing multiple choice items, constructing true/false items, constructing matching test items, analyzing items for objective tests, constructing and scoring essay tests, developing opinion interest and attitude questionnaires, preparing lectures, preparing for discussions, creating forms of self-paced learning, and developing self-paced programs.

Once a faculty member has indicated a need or interest, he may use an information resource package of selected articles, work on a self-study module with related activities, consult with qualified colleagues, and participate in a seminar or workshop using material from the resource package or module. This program provides a range of opportunities for faculty who wish to develop their professional skills further in specific areas.

San Bernardino

During the past years of operation the Faculty Development Center has had programs which attend to faculty concerns related to instructional strategies. In late spring of 1976 the directors concluded that instructional improvement alone would not establish and sustain the types of changes that seem necessary for a faculty development program. They restructured the goals and objectives to include a concern for faculty attitudes and the environment in which the faculty works. Activities provide instruction in a variety of teaching skills, increase communication, encourage and stimulate faculty professional experiences, and review the institutional framework within which the professional development program operates. Professional development is emerging in response to local needs.

EVALUATION AND RESULTS

Evaluation has been continuous since the beginning of the Center's operation. Each campus project systematically evaluates local activities in terms of goals and objectives. The Center receives feedback on its activities informally. External evaluators under contract provide holistic evaluation of the Center, the campuses, the Policy Board, interactions among the various groups, faculty perceptions and the like.

External Evaluations

The Center began its operations when professional development programs across the country were in their infancy. The concept was still evolving. Objectives, long-term goals, effective methods to accomplish those goals and objectives were not clear; operational definitions of such terms as renewal, development, retrenchment, etc., were still being perfected. Since the goal of professional development is long-term institutional and faculty renewal the only meaningful summative evaluation is long term. But a formative evaluation can provide useful data for purposes of decision-making and program development.

A 1974-75 evaluation of this type was conducted by Dr. James W. Trent, University of California, Los Angeles. Data were collected through interviews, site visits, and questionnaires submitted to a random sample of twenty faculty members on each of the nineteen campuses.

Trent made recommendations and highlighted issues rather than reached judgments about success or failure. Among the issues he identified as being particularly related to the Center and its programs were:

- ★ *Advancement and tenure*. Faculty on every campus visited spontaneously expressed their concern that the criteria and processes for advancement and tenure and the status of tenure itself constitute the number one problem in the minds of the faculty.

- *Collective bargaining.* This issue came up almost as often as the matter of advancement and tenure, and usually in the same context since both issues were seen as part of the same problem. The chief concerns regarding collective bargaining were its effect on advancement and tenure, classroom management, faculty-administrative relationships, and the quality of education.

- *Funding.* Inevitably, a major problem voiced on every campus was lack of adequate funding to carry out the projects properly. The evidence is that most, if not all projects are under-funded, just as is the Center itself. This is true especially in light of the needs for objectives of and potential impact of these efforts. The amazing thing is that as much has been accomplished as it has under the circumstances.

- *Attitudes toward the Chancellor's Office.* Faculty commonly carp about their administration. The evaluator, however, was unprepared for the degree of faculty suspicion and antagonism towards the Chancellor's Office that came up on each campus.

It should be pointed out that this evaluation was carried out after campus projects had been in operation only five months. Recommendations made by Trent focused upon operational strategies which by and large were implemented by the Center during the following months.

Proposals for an evaluation design which would continue from 1975 to 1977 were solicited from four independent groups during the second year of operation. The staff and members of the Steering Committee decided to engage Dr. William Bergquist, an independent consultant. He used a social-anthropological paradigm. Bergquist proposed that the evaluation would be formative in nature; increase the capacity of the system to conduct its own evaluations; give program leaders a clearer sense of the dynamics of their activities; generate information that is valid and useful, increase choices available to participants and insure ownership of participants for both the information and choices; assess the nature, intensity, and scope of program impact; assess the complex and often "synergetic" interaction with other programs in the system; focus on the personal characteristics, values, strengths and weaknesses of those individuals who are most intimately involved in the campus projects; and blend a variety of evaluative tools and perspectives.

As a result of four months' work, Bergquist and his associates prepared a separate evaluation report for each campus, one for the Center, and summaries of both. Bergquist, like Trent, identified several issues that seemed to be of concern on most of the campuses. These, however, were generally local. Among the items identified by Bergquist are:

- *Intensity Versus Diversity of Campus Programming.* Each campus has had to make a choice between doing one thing well (intensity) then confronting the issue of diversification; or doing a variety of things (diversity) then focusing in on one or more issues or projects of particular relevance to the institution or one segment of the institution. Both approaches can be quite effective, though at this relatively early point in the CPD program, those campuses that have focused attention and energy on one or two issues seem to have produced the greatest impact. Over the long run, however, a strategy of diversity may be more effective.

- *Program Ownership*. Attitudes on the part of the faculty about the need for and purpose of each of the campus projects vary. As a result of the scheduling of the submission of campus proposals in the early fall of 1974, many of the projects did not receive meaningful input from faculty when the proposals were written. Several of the projects are still struggling with problems created as a result.

- *Conflicts Between Teaching and Research Priorities*. On most of the campuses, significant tensions exist among the faculty in terms of institutional priorities in the areas of teaching and research. Most of the faculty development programs have been responsive to instructional issues, but, as a result, have appealed to those especially interested in teaching. Some of the campus projects may have to broaden their appeal by providing research assistance or consultation on intellectual and scholarly matters. In providing research assistance, however, these projects may be contradicting the primary mission of CPD and even of the CSUC system. By touching on intellectual and scholarly issues, these projects may be treading on the sensitive ground of disciplines and areas of faculty specialization.

- *Relationship of Faculty Development to the RTP Procedures*. On most of the campuses, a debate was continuing over the role to be played by faculty development projects in the campus RTP procedures. On the one hand, faculty development projects can provide faculty evaluation, performance documentation (portfolios), and instructional training. In this way, the projects can increase their own creditability, while insuring that faculty evaluation is directly linked in a constructive way with faculty development. On the other hand, they can easily become politicized. As a result, trust and interpersonal support can be lost.

- *Relationship of Campus Milieu to Faculty Development Programming*. On those campuses where there is strong faculty/administrative antagonism, faculty development projects have been hard to implement. In those instances in which a campus is essentially commuter-based, faculty, administrators, and students express need for a greater sense of community.

- In general, it appears that the more diffuse the program, the greater the probability that the campus milieu would influence the nature and success of the campus project. Those projects that focus on specific issues seem to be able to operate somewhat independently of campus problems and constraints in the milieu – though once again, it was noted that over the long run, the diversified projects that must deal directly with milieu problems may be more viable.

Results

Each campus has problems peculiar to their respective academic communities. Aside from local expertise and commitment to the goals of this funded project, the greatest single strength or asset of the entire effort is the diversity of the activities carried out on the campuses to meet local needs and to deal with problems of a general nature. Although the combined efforts may appear disjointed and unrelated, it should be kept in mind that this is a systemwide effort reflecting a variety of needs and equally diverse approaches to solving problems, responding to change, and eliminating barriers between and among people, academic departments, schools, and the college.

Activities and programs of the various campus projects as well as of those associated with the Center will gain credibility as faculty members have successful and positive experiences. The integrity of the campus project itself gives a positive image for professional development to faculty members who have come in contact with its high quality programs. A slow cautious approach will help change attitudes of mistrust and suspicion to more positive ones.

It has been suggested that a major problem facing professional development in the CSUC system is the apathy of the faculty and administrators. Data submitted as part of the reports from the campus projects, however, clearly suggest that the programs are reaching the right audience. Although there are exceptions, when the program has clear goals with appropriate strategies, faculty and administrators do respond. Increasingly, it seems that what was thought to be evidence of apathy was really behaviors which have a basis in mistrust, ignorance, and, to some extent, lack of confidence that program offerings really will be of benefit.

Any program with long-range goals is difficult to assess within a short-term framework. However, if one of the goals is to identify problems associated with program development, then we have in part achieved it. We now recognize the difficulties. Observations or hypotheses which follow are not, however, supported on hard data. As further information becomes available, these may require modification or may be proven to be in error. Nevertheless, they are reported here.

- A multifaceted project must have a systematic mechanism for identifying and reviewing goals and objectives. A common problem is the operation of programs according to unspecified intuitive, unwritten objectives. This may be inevitable unless a process is developed for establishing priorities for a systematic review of goals.

- A short time framework (6-30 months) causes some personnel to be result-oriented, impatient, and anxious. If expectations are too high, disillusionment easily sets in.

- There is a tendency to confuse good relationships as an end with good relationships as a condition. Effective, open, trusting relationships are not the goal but a means. They are prerequisite to the broadening goals of professional development.

- In the search for solutions to problems or for general assistance, there is the tendency to look for cookbook answers. External persons are frequently brought in with no plan or rationale for their most effective use. The opposite side of the coin is to rely on the internal expert, the respected professor, who is recognized as an excellent teacher or leader. This latter situation occurs when there is an attempt to develop local credibility through association with faculty who have recognition.

- There is a continual problem of trying to fit new concepts into an old structure. Professional development is too often interpreted in traditional ways as, for example, research and sabbatical leaves. Administrative preconceptions and structures often prevent the formation of alternative structures, prevent assigning responsibility by rotating personnel, or diffuse the leadership. Process-oriented consultants tend to be viewed with mistrust.

- Good ideas are sometimes borrowed and implemented but with little success. Workshops or other activities are taken out of the context of program and used as a single activity. Without appropriate lead-in or follow-up activities, their point and purpose can be lost.

- Project or program leadership is frequently loosely defined. Part-time directors maintain primary allegiances to academic disciplines or committee work. Such diffused ownership reduces responsibility and commitment to or for the success or failure of the project. Situations such as these may be a result of administrative policy, the need of faculty to protect themselves for purposes of the retention, promotion, and tenure process, or simply chance.

- Transdisciplinary activities have a greater potential for success if they are problem-centered. Problems should be those capable of generalization.

- Although some change results from pressure in the environment, real changes in the structure result after careful analysis of the pressures. Change will result if someone is willing to take risks. Risks are only possible in an environment of trust and collaboration. Collaboration is an achievement, not a given condition. The ways of effective collaboration in a multi-campus project must be learned. Conflict is not to be avoided. Rather, the aggressive energies of conflict can be channeled toward the achievement of personal and project goals – and a collaborative effort for the good of the system.

These observations are broad generalizations. Exceptions certainly exist, but each appears to have some basis at least at the current stage of the CSUC effort.

The Future of the Center for Professional Development

Although grant monies provided by FIPSE will terminate June 30, 1977, the Center will continue through an increase in support from the Innovative Fund. This is not purely an administrative decision. The Policy Board, which includes representatives from all nineteen campuses and students, demonstrated its backing of the Center through a motion which was passed unanimously.

> The Policy Board strongly recommends that the Center for Professional Development be continued and that it be staffed by a full-time director and provided necessary support. (February 9, 1977.)

Clearly, initial skepticism of professional development and expressed concern about a systemwide effort have been alleviated.

The extent to which the Center and its programs have gained credibility is further demonstrated by the Policy Board's willingness to assist the Center to economize by disbanding itself. Because there is no longer a need for a special group of campus representatives to monitor the operations of the Center, the Policy Board unanimously agreed to terminate itself at the end of the program year (June 30, 1977).

Recognizing, however, that the Center should have a group to advise it, the Policy Board recommended that the Campus Coordinators, associated with the Division of New Program Development and Evaluation, assume that role.

Clearly, there is wide-based campus-level support for the concept of professional development as implemented by the Center through its programs. Support for the concept of the Center and campus-based programs is also apparent in recent actions taken by the CSUC Board of Trustees.

Recognizing the potential impact of steady state on the maintenance of a quality faculty, the Board of Trustees established an ad hoc committee "to study all matters relating to the procurement and retention of a quality faculty." (September 25, 1974.) At the March 24, 1976 meeting of the Board, the following resolutions were adopted:

> **RESOLVED**, By the Board of Trustees of The California State University and Colleges, that the Board adopts as policy the recommendations contained in the September 1975 (as revised on December 23, 1975) Report of the CSUC Ad Hoc Committee on Procurement and Retention of a Quality Faculty, as detailed in Agenda Item 2 of the January 27-28, 1976 meeting of the Board of Trustees with the exception of Recommendation No. 24 thereof, and be it further
>
> **RESOLVED**, That insofar as additional funding is required the recommendations will be considered for inclusion in the budget for 1977-78 by the appropriate Board policy committee(s) and the Committee on Finance in light of overall policy and budgetary considerations; and be it further
>
> **RESOLVED**, That the Chancellor is requested to monitor implementation of the recommendations adopted and to report periodically thereon to the Board (p. 4140).

The Report of the CSUC Ad Hoc Committee on Procurement and Retention of a Quality Faculty contained the following recommendation:

> The Board of Trustees should encourage the development of systemwide and individual campus programs which fall within the recent movement in higher education generally alluded to as "faculty development." Such programs are to focus upon methods of facilitating the professional development of faculty members (p. 24).

By the end of June 1977 six campuses will have had the opportunity to explore the concept of professional development through campus-based programs. In addition, Fullerton and Long Beach, closely tied to the Center over a period of three years, will have had some support for its program. It is anticipated that each campus will soon have to determine whether or not the campus program should be terminated, can be supported through local funds, or needs an additional year of support in order to maintain momentum and insure continuation beyond 1978.

Campus programs may be terminated for a variety of reasons. Faculty may feel the resources might be better utilized in other ways. On some campuses the concept of professional development may better be implemented in other ways. In any case, campuses which terminate programs will have data upon which to base their decisions.

Some campuses will decide that they are capable of underwriting the cost of their program out of local resources. At least one campus has demonstrated that the campus program is capable of generating enough faculty and administrative support to continue its operation. Campuses which gain such support would still continue as part of the Center's communication network sharing their experience and expertise with campuses just beginning.

In some cases, campuses which have received funding for two or three years may need an additional year of support to stabilize the local program. Needless to say, such requests have to be justified and the need substantiated. Based upon the experiences of the CSUC Center and of other similar efforts across the country, it requires several years to generate the necessary internal good-will and interest needed to maintain an ongoing professional development.

Some minimal financial support is critical during the initial stages of program development. The establishment of priorities, of purposes, and objectives occurs best when the process is externally stimulated. It is only with time for planning provided through external funding that we can insure that campuses review models, establish goals and objectives, identify resources, create appropriate mechanisms, and design effective programs. Neither faculty nor administrators have the time to take on what is really an additional responsibility.

Contemporary programs of professional development must have the support of the faculty and administration if they are to succeed. Such support will only come when they realize the role of professional development in providing a quality education for our students. Such changes of perceptions take time. Professional development must be welcomed as a vehicle, more important than ever in a time of steady state, for the improvement of education for students in the CSUC system.

Not all campuses will likely begin programs within the next few years. An incremental approach to program development has a number of important advantages. Professional development is still emerging as a concept and models will have to be revised and restructured as they are adapted to changing local needs. Such changes must be continually monitored and documented to ensure maximum effectiveness and efficiency. To this end, the Center for Professional Development will continue to:

- Gather data on model faculty development programs within the state and across the country and make such information available to the campuses;

- Assist individual campuses in establishing local programs of faculty development in response to local needs;

- Identify appropriate resources for use by the campus programs;

- Bring together representatives of campuses with common problems;

- Cooperate with professional societies and associations to provide CSUC faculty professional development programs unique to academic areas;

- Cooperate with other agencies as necessary to jointly sponsor systemwide programs related to faculty development (conferences, workshops, etc.);

- Monitor and otherwise assist in the evaluation of campus programs for the purpose of gathering data of use to other programs within the CSUC system; and

- Monitor and arrange for external evaluation of the Center and all of its operations on an annual basis.

The long-term goal of the Center is to provide individual campuses the opportunity to evolve campus-based programs which:

- Encourage faculty members to gain:
  - New techniques and tools for evaluating learning;
  - Diagnostic skills and procedures necessary for programs of individualized student learning; and
  - An awareness of and training in innovative approaches to teaching and learning.
- Provide faculty members the opportunity to obtain:
  - Experience in nontraditional teaching methods appropriate to innovative approaches to teaching and learning;
  - Training in traditional teaching methods appropriate to the academic discipline in which they teach; and
  - Training in aspects of innovation which require specialized skills such as evaluating experiential learning, developing competency-based curricula, or use of media.
- Make available to faculty members training in areas which are not unique to an academic discipline but which relate to teaching roles and to the role the faculty member has as a member of the institution.
- Assist the faculty member in understanding some of the broad-based problems facing higher education so that he/she gains:
  - Increased understanding of the goals of the institution and how they relate to the instructional program and the needs of students and
  - The ability to develop relevant programs of learning for students.
- Help the faculty member to develop skills and tools related to the:
  - Evaluation of learning;
  - Assessment of student needs and abilities; and
  - Use of new instructional methods and educational technologies.
- Enable the faculty member to gain a perspective of higher education generally and the institution specifically which will improve the individual's ability:
  - To advise students in regard to curriculum matters and broad-range career goals and

- To work effectively in curricular and other matters related to the quality of education he/she, the department and institution provide.

The Center for Professional Development responds directly to problems facing higher education. It is an efficient approach to resolving the rather complex issues of steady state. A programmatic approach to professional development is generally considered to have long-lasting effects as contrasted with short-term results of isolated workshops, conferences, and seminars. The Center has significant potential for improving the quality of education in the CSUC system.

5

FACING THE CRISIS: A Survey of CSUC Writing Projects

by William Stryker

The decline in students' verbal scores on college entrance exams in recent years has been matched by growing faculty disappointment in the writing their students do on papers and essay tests. This is true not only in fields where writing has traditionally been important, the humanities and social sciences, but also in the sciences, the arts, and such diverse fields as business, home economics, public administration, and physical education, where even though technical knowledge or skill of hand may receive the primary emphasis, the ability to write a clear and readable report or proposal is nevertheless very important. The California State University and Colleges, together and singly, have recognized this growing problem for years and have met it in a number of ways, one of the most significant of which is through funding experimental programs in the teaching of basic writing skills. During the past two years twelve such projects have been supported. Two were multi-campus projects, each involving six campuses, so that altogether, since fall 1975, seventeen CSUC campuses, with the aid of the Fund for Innovation, have tested new modes and formats of instruction in the teaching of writing.

Enrolled in these pilot projects during 1975-76 were about 1,870 students, not counting control groups; supervising the projects and providing instruction were forty-four faculty members and 78 peer tutors. During the current school year another 1,200 students, fifty-two instructors, and 114 peer tutors were involved in pilot projects in the teaching of writing and reading skills. The tutors, about three fourths of whom were graduate students and all of whom demonstrated skill in writing, were both teachers and learners, being themselves enrolled in courses in the teaching of writing or reading before and during their service as tutors. Students who next year will be enrolled in ongoing programs no longer supported by innovative funds will number approximately 3,000. Students whose study of writing – in regular composition courses, in subject-matter courses in natural resources, history, psychology, and many other fields, and in learning assistance centers – will be more effective as a result of methods, and materials of instruction developed in these twelve innovative projects will number many thousands.

The single most fruitful idea in this group of projects has proved to be the writing adjunct. The adjunct concept has spread to over half the campuses in the CSUC system, and wherever it has been tried students have written better papers in subject-matter courses and instructors' hopes have been revived that something can in fact be done about "the crisis in student writing." During 1975-76 projects on six CSUC campuses cooperating in a multi-campus project and two campuses working singly were funded to try out the writing adjunct in a variety of models.

Most of the other writing projects supported in these past two years have focused on remedial or supplemental instruction. These included a San Diego-based multi-campus project and single campus projects at Fresno, Los Angeles, San Diego, San Jose, and Northridge. Exceptions are an interdisciplinary experiment at San Bernardino, a project at Bakersfield to explore the proper content of remedial instruction, and a program at Fullerton to provide instruction in basic study skills, reading, and critical thinking to large numbers of undergraduate students.

The projects in remedial and supplemental composition described here offer ways of providing assistance to students identified by examinations as needing special help. Projects at Fresno and San Jose included the development of diagnostic tests which identify specific needs in basic writing skills. And the recommendations of the Chancellor's Task Force on Student Writing Skills to use the English Placement Test, to be given for the first time in August 1977, and to provide remediation for an estimated 40% of the students who take the test will make the need for programs like these all the more apparent.

All these projects have been evaluated continually by New Program Development and Evaluation. Four kinds of information are used in the evaluation:

- Scores on pre- and posttest essays and objective tests;
- Attitude questionnaires filled out by students, peer tutors, and instructors;
- Observations and interviews conducted by the evaluator in visits to all the project campuses; and
- A variety of written and duplicated materials connected with the projects – announcements, correspondence, instructional materials, manuals, records, etc.

Evaluation has been formative as well as summative; that is, the purpose of the evaluation has been not only to determine the value of the project at its conclusion, but to provide recommendations and suggestions for improvement throughout, particularly in the case of projects funded for a second year. The present report does not include detailed evaluation, such as statistical analysis of data obtained from the test instruments; the full and final evaluation will be contained in a forthcoming monograph.

WRITING ADJUNCT PROJECTS

Introduction

The writing adjunct (WA) is based on the premise that it is advantageous to provide a student with writing instruction in connection with his writing assignments in a subject-matter course. From the point of view of the writing teacher, this goes a long way toward solving two major and related problems in regular composition courses: what to have the students write about and how to motivate them to do their best on topics that may not arouse their interest.

It seems axiomatic that in the WA situation – a student writing on a subject he knows something about and presumably is interested in (or he wouldn't be taking the course) and a writing teacher or tutor providing assistance from the beginning to the end of the task – the student will write a better paper than he otherwise would. From the evidence available this does in fact usually happen. Many students in WA programs have said that they did a better job or got a higher grade than they otherwise would have, and many subject-matter (SM) instructors have testified to their pleasure and satisfaction at getting better student writing than they were accustomed to.

As a consequence of starting from the above premise, the WA course is always at least partly individualized. Writing teachers would point out that *any* respectable writing course must be partly individualized, but it is especially true of the WA. Because individualized education is expensive, most adjunct programs have adopted peer tutoring as a main mode of instruction. So far as content is concerned the emphasis in the WA is on revision, although the prewriting activities and the process of writing the first draft are not neglected. It has been a revelation to instructors and tutors in the WA to discover how little attention most students give to revision, and, a revelation to these students to learn that to a competent writer, revision is much more than proofreading.

One of the variables in adjunct programs is the proportion of classroom instruction to individualized instruction, and a determining factor here is another significant variable: namely, whether the adjunct class is homogeneous or mixed. A homogeneous class consists of students from a single subject-matter course, while a mixed class is made up of students from a variety of courses and disciplines. Students in a homogeneous class obviously have more in common; more can be accomplished in class sessions; and collaborative learning can be used – that is, students can react to each other's writing. In the mixed class more must be done individually. A basic principle of adjunct programs of either type, however, is to avoid wasting time teaching students what they already know. The relevance of the instruction to the student's need is a key factor in the success of the WA.

Two other variables in adjunct courses are the number of units of the course and the grading system used. The adjunct courses described here offer from one to three semester units (or four quarter units). A practical advantage of the one-unit course is that in experimental programs where there is insufficient time to get the adjunct into the printed time schedule, students can add it after registration without taking on a large overload. The grading system recommended in the multi-campus WA project is Credit/Non-credit, to avoid possible conflict over grades with the SM course, but some of the WA courses of more than one unit use letter grades.

The multi-campus WA project will be discussed in the next section, followed by discussions of the two single campus WA projects and the interdisciplinary project. Table 1 shows the type and size of the WA program on each campus.

Multi-Campus Project

The Writing Adjunct Transfer Project (WAT) 1975-76 grew out of the successful adjunct at the Small College, CSC Dominguez Hills, which began in 1972. Six institutions participated in the project: Dominguez Hills, Sonoma, San Luis Obispo, Fullerton, Long Beach, and San Diego.

In 1976-77 three campuses continued – Fullerton, San Luis Obispo, Sonoma – and Sacramento, San Francisco, and Stanislaus joined them in the WAT project. The number of persons participating in the project this year is approximately the same as last year.

Organization

In examining Table 8 one begins to become aware of the effort required to establish the WA program on a campus. To appreciate this complexity we shall look at the task of establishing a WA program chronologically from the point of view of the director.

Work and planning must begin at least a semester before the class starts. The approval and support of the English Department must be secured and decisions must be made about the type and size of the program: the course number(s), number of units, grading system, and the composition of the class(es) (homogeneous or mixed). If homogeneous, negotiations with faculty in the other department(s) must be undertaken. If mixed, a publicity campaign must be planned and carried out. This usually means drafting announcements, posters, memos, and newspaper articles, as well

TABLE 8

WRITING ADJUNCT PROJECTS

Campus	Term	Subject Area	Class Level	Units of Credit	Grading System	Students	Tutors	Writing Adjunct Instructors	Subject Matter Instructors
The WAT Project: Dominguez Hills	W	Psychology	Jr.	4 qtr. un.	A-F or Cr/NC	16	2	2 @ 1/4 time	1
	S	Liberal Studies Education	UD Grad	3 qtr. un.	A-F	23 7	2	2 @ 1/3	12
Fullerton	S	Mixed	LD UD Grad	1	Cr/NC	32 37 1	10	2 @ 1/12	24
Long Beach	S	Chem., Bus. Law, Journ., etc.	LD UD Grad	1	Cr/NC	33 23 12	4	1 @ 1/4 3 @ 1/12	14
San Diego	S	History	LD	1	Cr/NC	10	(none assigned)	1 (overload)	1
San Luis Obispo	W	Mixed (senior project)	Sr.	3	A-F	42	9	1 @ 1/2	6
	S					66*	8	1 @ 1/2, 1 @ 1/4	6
Sonoma	S	Mixed	UD LD	3	Cr/NC	39 1	15	2 @ 1/4	17
Humboldt	W	Natural Resources	LD	2 qtr. un.	A-F	13	0	1 @ 1/4, 1 @ 1/2	1
	S	Natural Resources Natural Resources History				13** 24 12	0	4 @ 1/4, 1/2 or 1/3	1 1 1
Chico	F	Public Admin. Interns	UD Grad	0	none	32 12	0	1 @ 1/2	1
	S	Public Admin. Interns	UD Grad			26 9		1 @ 1/2	1

*Includes 37 carried over from winter quarter.
**Carried over from winter quarter.

as explaining the adjunct in person to numerous colleagues and often to many SM classes. If tutors are to be used, plans must be made for selecting, training, compensating, and supervising them. If no course in teaching composition or training tutors already exists, the course must be planned and seen through the required approval procedures. Meanwhile the WA course must be planned, and instructional materials selected and procured.

When all the plans and arrangements have been made, the term begins, and the students appear, another complex series of procedures starts. The first main job, after again explaining the WA, is to assess each student's ability and needs and then to help him formulate suitable goals for the course. The assessment and goal-setting are based on a writing sampl [illegible] short grammar test, and an interview. Each student's SM instructor is asked for a list of his writing assignments for the term, and, on the basis of this, a schedule of tutoring appointments is arranged. For the term to go smoothly and for a useful evaluation to be made at the end, records must be kept – of the interview, goals, schedule of writing assignments, all the writing and other work done by the student, and the tutoring sessions. It is no wonder that a weakness of all the programs during the experimental year was organization.

Table 8 provides a profile of the WAT project during the first experimental year, 1975-76. Altogether 305 students were enrolled in the pilot classes. These students were served by sixteen writing instructors and fifty-one tutors (a few repeaters at Dominguez Hills and San Luis Obispo are counted twice). A total of seventy-nine SM instructors had one or more students enrolled in a WA course. Divided according to format, three or four-unit WA courses were given at Dominguez Hills, San Luis Obispo, and Sonoma, while one-unit WA courses were given at Fullerton, Long Beach, and San Diego. Almost exactly the same number of students and faculty members participated in the two kinds of courses, but the three-/four-unit programs employed twice as many tutors because their instructional time was much greater.

Additional information about the WAT may be found in the project's own publications, which include the following:

- A seventy-eight-page *Instructor's Manual*, intended primarily as a how-to-do-it guide for anyone considering implementing a WA program but also an excellent introduction to the WA for other interested persons. In response to requests for information, the *Manual* has been sent to seventy-five campuses outside the CSUC system.

- A *Manual for Peer Tutors*, of similar length, explaining the role of the tutor, the recommended procedures for tutors in the WAT, and the content that tutors should teach.

- The WAT *Bulletin*, published five times thus far, containing descriptions of WA programs, brief annotated booklists, and short articles on relevant topics.

- The *Final Report* of the 1975-76 Writing Adjunct Transfer by the codirectors, Professors Marilyn Sutton and Lois Feuer of the Small College, CSC Dominguez Hills (subsequently cited as the *Report*).

An integral part of the WAT project itself is the *Resource Index*, a set of some 400 four by six cards. On each card is printed a "Rule" or a "Strategy" of expository writing, an example of the rule in operation, and several references to books in a set of nine composition handbooks that constitute the Resource Library for the WAT project.

Evaluation

Five end-of-term questionnaires were used in evaluating the 1975-76 WAT project: one each from students, tutors, WA instructors, SM instructors, and English Department chairpersons. The students' and tutors' questionnaires asked for responses scaled from one to five (Strongly Disagree, Disagree, Undecided, Agree, Strongly Agree) to a series of statements about the project and its effects. The three faculty questionnaires elicited written, open-ended responses. Completed questionnaires were obtained from all WAT campuses except San Diego; the small WAT class there, unfunded and taught as an overload by an instructor in the Study Skills Center, was not included in the evaluation. An analysis of the responses to these questionnaires by the external evaluator of the project, Professor William Robinson, Director of Composition at San Francisco State University, is included in the *Report* for the project.

All three groups – students, peer tutors, and faculty – reacted very favorably to the WA, while at the same time noting problems. Least critical of the groups were the SM instructors; twenty-seven out of twenty-nine on the five campuses responded affirmatively to the question, "Would you offer your course as a WA course again?" Many expressed gratitude to the WA coordinator on their campus or to the English Department for making the WA available. Likewise, English Department chairpersons were cognizant of the fact that WAT programs on their campuses had improved relations of their department with other departments on campus. Of the eleven WA instructors responding, only one felt that the WA was less effective than a traditional composition course.

WA instructors stated frankly, however, what their programs needed to function better. Chief among the needs were: more careful organization and coordination; solutions to problems characteristic of individualized instruction, for example, student procrastination and the tendency to drop out near the end of the term; and the assurance of a sufficient amount of writing in the course. All these problems are receiving the attention of campus directors this year. For example, more class sessions have been scheduled to counteract the inherent weakness of individualized programs.

A recommendation frequently made on the basis of the first year's experience was that, whenever possible, the writing assigned to the student be several shorter papers rather than one long paper, so as to make students apply lessons learned about writing in the course. When only one paper is required, the student and the SM instructor place too much emphasis on the product, a creditable paper, and too little on the process, that is, on learning better how to write a paper. The most pronounced example of this occurred at San Luis Obispo, where the WA last year was offered only in connection with the senior project, a research paper which often assumes the proportions of a master's thesis. Understandably, for most seniors the objective of turning in a satisfactory project blots out any concern for developing one's writing skills. This year the coordinator has tried to disengage the WA from the senior project, over the protests of SM instructors who are grateful for the help the WA gave their students last year, and instead develop a junior level WA to help prepare students for the project they will face as seniors.

Another set of problems noted by WA instructors and tutors alike during the first year involved liaison with the SM instructor and course. Less of a drawback than might be expected was the tutor's and WA instructor's unfamiliarity with the subject matter of the student's papers. In most instances, despite not knowing the subject, the writing teacher or tutor was able to detect weaknesses and make useful suggestions for improvement not only in mechanics and sentence structure but also in paragraph structure, transitions, and such larger matters as focus and organization. A more serious liaison problem had to do with the SM instructors' writing assignments. Sometimes the assignments were made so late that the student lacked time for the planning, research, and revision required of a good paper and for profiting from consultation with and criticism from the tutor. Surprisingly often, the assignments were vague, lacking details about deadline, length, or even the form and purpose of the paper. One of the external evaluator's recommendations dealt with this problem (*Report*, p. 137):

> Since instructors in departments other than English often show little skill in formulating writing assignments, the WAT instructor, employing the tact of an English butler, should attempt to nudge these people toward an understanding of the beauties of the structured (but not too structured) assignment.

Students were less critical of the WA. They liked the program. On the following half-dozen significant items on the student questionnaire the mean score across the five campuses was above 4.0, which signifies a response between "Agree" and "Strongly Agree":

Questionnaire Item	Mean Score
Students were treated as people	4.414
Critiques of drafts were helpful	4.365
Would recommend course to friends	4.280
Liked the Writing Adjunct	4.197
Tutors were available when needed	4.179
Did better in subject-matter course than I would have without Adjunct	4.006

On all these items, it may be noted that the mean response of the thirty-two WA students at Sonoma State College was from 0.1 to 0.4 above the five-campus mean. It may be significant that the Sonoma students also showed slightly more contact hours during the semester than WA students on the other campuses. In the judgment of the external evaluator, the Sonoma WA "showed perhaps most clearly the potential of this method of composition teaching" (*Report*, p. 117).

The tutors as a group liked the work and welcomed the opportunity to gain teaching experience. Most were unpaid but received unit credit in that a given number of hours of tutoring per week fulfilled a requirement in their tutor-training course (typically, six hours of tutoring a week were required for a three-unit course). Many tutors stay with the program more than a semester; some continue with no compensation after completing the available course(s) in tutor training. However, the tutor in the WA is very much the "man (or woman) in the middle," and the responses on their questionnaires highlight the problems of organization and liaison referred to earlier. For example, their mean score was neutral on the item, "SM instructor's critique contradicted mine" (meaning that in a good many cases it did) and reflects that they agreed, though not strongly, with the statement, "I was not always sure of the subject-matter requirements." In their written responses some also mentioned lack of communication with the SM instructor and lack of clear understanding of their role. The WAT co-directors and campus coordinators for the current year were fully aware of this potential problem from the beginning, and they have tried to improve communication and forestall misunderstanding. Part of the problem, though, as stated earlier, is that many SM instructors lack expertise in assigning and dealing with student writing, a situation that cannot be changed overnight.

A pervasive problem that surfaced only obliquely in the questionnaires but clearly in interviews with tutors and WA instructors was a misunderstanding of the purpose of the WA. Despite the WA instructor's handouts and oral explanations, students and SM instructors sometimes started out with the assumption that the tutor would simply go over the student's paper and correct the spelling, grammar, and punctuation. Where this misunderstanding existed, responsibility usually fell to the tutor to educate the student, and the writing instructor to educate the SM instructor; it was necessary to show them that the WA could perform the much more valuable function of helping the student become a more competent writer and that it was a perversion of the program to treat it as a free editorial service. Regrettably, in a few isolated instances, efforts to educate the beneficiaries of the program have failed.

Single Campus Writing Adjunct Projects

Experimental WA programs outside the WAT project are in their second year at Humboldt and Chico.

The *Humboldt* writing adjunct differs from the WAT project in that it was introduced as part of a larger program, and thus has had a home from the beginning. As part of the experimental Emphasis Phase of the General Education program, the WA is a sequence of two, two-unit courses and a four-unit capstone course, the first two-unit course is taken in connection with a course in the student's major, the second with a "contrasting perspectives" course, and the capstone course as a seminar or independent study centering around a project in the major. The adjunct series is not required but is one of several alternative ways of completing the Emphasis Phase requirement.

The first WA section, thirteen students from an introductory course in Natural Resources, was taught in winter 1976. These students have now completed the series, and four other classes have begun since then, two in Natural Resources, one in History and one in Biology, to total some ninety students. Enrollment has been limited by the lack of instructors to teach additional sections, but this situation will be alleviated by a tutor-training course begun this year which will train students to take over tutoring duties and release instructors to teach more sections.

Reactions of both students and faculty in the program have been favorable. Instructors of subject-matter courses state unequivocally that the writing of students in the adjunct is better than that of other comparable students, and students testify that their grades have improved because of the adjunct.

The *Chico* program is a WA for Public Administration interns which operates as a non-credit adjunct to the core course of the internship. The Writing Laboratory, as the adjunct is called, was proposed because the Political Science faculty became increasingly concerned about the literacy of its majors, especially the interns. The purpose of the lab was: 1) to help interns who were deficient in basic writing skills to achieve a minimum level of competence and 2) to provide instruction and practice in "professional writing," that is, reports, proposals, manuals, surveys, and articles for specialized periodicals. Accordingly, the course of study developed for the lab included a series of drill sessions on grammar, punctuation, and mechanics, followed by a survey of the types of composition relevant to the interns' needs.

Beginning with forty-four students in fall 1975, the program got off to a shaky start. Some interns resented not being told in advance that they would have to demonstrate competence in writing and to attend the lab. A 75% failure rate on a diagnostic test on editing skills increased their aggravation. After student-faculty negotiations, 1975-76 students were no longer required to attend the lab before they passed the test. Students also criticized the conduct of the lab.

As a result of the students' and the instructor's perceptions of the faults of the Writing Laboratory in the fall semester, significant changes were introduced in the spring. The emphasis on individualized instruction was retained, but the testing and the class sessions were changed. Class sessions were increased in number, and matters that had been treated only generally in the fall were treated in greater depth, with opportunities for practice. Student resentment disappeared with the removal of required attendance and the changes in testing and curriculum, but unfortunately so did many of the students.

Despite the problems of the first experimental year of the lab, there were some encouraging results, and year-end evaluations by the students who stayed were favorable. An external evaluation by a state consultant summarized the program's weaknesses and indicated that they had either been corrected in the spring or were within the power of the directors to correct. He ascribed some of the early trouble to unclear lines of responsibility among the several persons involved in directing and running the lab. The support of the Public Administration faculty has remained firm. They made the lab a requirement for the 1976-77 students in the core course and voted unanimously to make it a permanent part of the internship program. The entire Political Science faculty went on record that the Writing Laboratory would "satisfy both present departmental and future university-wide literacy requirements." Supervisors of the interns have also supported the lab from the beginning.

The project has continued this year, under reduced innovative funding, with about twenty-five students each semester. Student motivation has improved, but not sharply; some interns remain unconvinced that writing is relevant to their future.

Not strictly an adjunct but rather an interdisciplinary project was the two-quarter course developed at *San Bernardino* last year combining English 100 – Freshman Composition and Philosophy 105 – Argument and Evidence. The course was team taught to a pilot class of fourteen average and above-average students by two faculty members representing the two disciplines. Class sessions were devoted mostly to Socratic questioning on texts ranging from Plato's *Protagoras* to the transcript of the Judiciary Committee debate on the impeachment of Richard Nixon and on social, moral, and philosophical issues raised by the texts. Outside of class the students wrote biweekly analytical papers of 500 to 750 words.

The purpose of the experiment was to test the hypothesis that students taking the interdisciplinary course would improve their writing more than students taking the two courses separately or either course alone. The findings, based on pre- and posttest essays, were that the gain of the three groups taking English 100, in whatever format, showed no significant difference, while the group taking Philosophy 105 without the composition improved their writing less.

Student response to the course was favorable, however, and without special funding the two instructors each taught a section this year, exchanging sections at the break between quarters. The course is to be given permanent status in the college curriculum in fall 1977. Furthermore, all sections of Philosophy 105 are now modeled to some extent on the experimental course.

The Future

The benefit of the WA to a student who writes better papers because of it, and to the SM instructor who reads them, has been clearly demonstrated on all of the eleven campuses participating in these projects in the past two years. Among other benefits is the fact that the WA helps make students' writing ability truly a campuswide concern. Professors in a variety of departments have been sensitized or re-sensitized to the quality of student writing and have had their hopes revived that something can be done to improve it. As mentioned earlier, relations between English Departments and departments furnishing WA students have been enhanced by the program. Students working as WA tutors not only have gained valuable teaching experience, but also have sharpened their critical faculties. Many believe that they write better themselves because of the tutoring experience. Building a corps of such persons can only be beneficial to an institution.

At this time the future of the WA is promising but not without problems. All but one of the nine WAT project campuses intend to continue the adjunct after their special funds run out. However, on some campuses, such as Fullerton, the pressures created by the new English Placement Test and the need for remediation which the test will make manifest have preempted the attention of English Department chairs and directors of composition and may delay building the adjunct into the regular offering of the English Department.

CSU Long Beach has only a handful of adjunct students registered this year, but the English Department expects to reinstate a larger program next year. Only at CSC Dominguez Hills is the adjunct *per se* not being continued, although it operated successfully there in 1975-76. However, several features of it, such as individualized instruction, have been incorporated into their two-quarter freshman composition course. Outside the WAT project, Humboldt and Chico have WA courses built into permanent programs, and it appears that these will continue after support from the Innovative Fund ends.

The point in the curriculum at which the WA may find its most natural place is as an alternative to the standard advanced composition course. Whether or not a requirement of two writing courses is ever made systemwide, as the Task Force on Student Writing Skills recommended, student demand for an advanced composition course is presently increasing, and the WA should prove an attractive alternative.

REMEDIAL AND SUPPLEMENTAL COMPOSITION PROGRAMS

The San Diego Multi-Campus Project

The purpose of the project was to explore the potentialities of individualized, competency-based instruction in remedial composition. The project was an outgrowth of two earlier projects, funded by New Program Development and Evaluation and directed by Robert Noreen of Northridge, which applied PSI (Personalized System of Instruction) pedagogy to freshman composition. The work of this project consisted of developing a modular syllabus and accompanying tests, carrying out related studies, and testing the materials and methods in remedial composition classes at San Diego, San Francisco, and Sacramento and in tutoring centers at Northridge and Dominguez Hills. Each of the six participating institutions developed certain of the materials or carried out a study.

San Diego

The syllabus-text *Writing Skills: Sources and Self*, prepared by the project codirectors with the help of suggestions from other campuses, contains eighteen modules each with an introduction, exercises, many assignments in texts that make up the Writing Skills Library, and a set of seventeen selected composition tests.

The first two modules are complete and self-contained; they take the student step-by-step through the process of writing a five-paragraph expository theme and then through a careful revision of this theme. Each of the remaining sixteen modules contains a "Track A – Review" lesson on a given topic, intended to be done in three days, and a "Track B – Study and Practice" lesson, intended for seven days. There are a few exercises in the book, but most of the work assigned is in the texts of the Writing Skills Library.

The experimental project classes were two sections of students in Study Skills 101, which is a remedial composition course for students who score in the low 10% on an English placement test taken by all entering students. These classes were evaluated on the basis of pre- and posttest essays along with two traditional lecture-discussion sections and two experimental linguistic sections in the San Diego single campus project. A statistical analysis of the scores on these essays showed no striking difference in results among the three groups. (See description of the San Diego single campus project below.)

San Francisco

San Francisco's special assignment in the multi-campus project was the preparation of a *Manual for Tutors*. A useful feature of this 78-page *Manual* is the "Skills Section," containing exercises, based on actual student writing, that show new tutors how to use the student's own writing as teaching material. The last section of the manual, intended for directors of tutorial programs, emphasizes the need for adequate training and apprenticeship before a tutor can be expected to function reliably on his own.

Although there is no remedial composition course at San Francisco, the instructors assembled a section of freshman composition and a section of an upper division composition course in which about two thirds of the students were remedial. Instruction in the freshman class was wholly individualized; the upper division course combined individualized instruction with lecture-discussion. The syllabus, Writing Skills Library, and posttests, developed at San Diego, were carefully used and the results satisfactory, although the instructors felt they could have avoided some early confusion if they had had an orientation session in San Diego on the materials and procedures. No similar sections are being taught at San Francisco this year, but the materials are still in use in the writing lab.

Sacramento

The special task of the Sacramento campus was to develop remedial materials for bilingual and bidialectal students. This was an inappropriate assignment, for Sacramento, unlike San Francisco and Los Angeles, does not have static pockets of minority population where non-standard dialects flourish and continue. Consequently, the coordinators did not have a group of people who could serve as informants or subjects on whom to test any materials they developed. What they did was to search the meager literature on dialect interference in writing to produce a twenty-five-page report illustrating the interference points of Black Non-standard English with written English and including model exercises for overcoming these features.

Although Sacramento does not have a remedial composition course, the coordinators organized two small sections of English 1A made up of poor writers, a number of whom were foreign students. They used the project syllabus-text and the Writing Skills Library, provided tutorial assistance in and out of class, and attempted to use the posttests.

Logistics problems limited the success of the project at Sacramento. The course materials and book list were received at the last minute, and differences in format and terminology among the texts of the Writing Skills Library proved to be a formidable obstacle for the students. Like their San Francisco colleagues, the Sacramento coordinators felt that an orientation meeting at the San Diego headquarters would have saved them confusion and time.

The project materials are not in use at Sacramento this year, but individualized instruction in writing skills still flourishes currently in the Learning Assistance Center, established this year with the help of innovative funding and in the English Tutoring Center.

Northridge

Northridge surveyed and evaluated screening tests and procedures in colleges and universities. The campus project director mailed a questionnaire to 200 two- and four-year institutions throughout the country and received replies from 123, over 80% of which reported that they had procedures for placing students in appropriate writing courses.

Only a quarter of these reported that they were satisfied with their procedures. Respondents generally agreed that a writing sample is the best measure of a student's writing ability, but that it takes too much time and costs too much to grade them and that the readers' grades are of low reliability unless readers are specifically trained for the task. Objective tests are often accepted reluctantly, for they usually test only usage and mechanics and are error-oriented. Respondents felt that the best measure of composition ability is a writing sample, scored by trained readers, together with an objective test that covers a broad range of composition skills.

The SAT and ACT are by far the most widely used; each is in use at about 40% of the responding institutions. The highest percentage of schools registering satisfaction with any given placement procedure (72%) was the group using a combination of SAT scores and a writing sample.

The director examined a number of objective tests in his study, and found one – the College English Placement Test (CEPT), Houghton Mifflin, 1969 – which at least touches on a wide range of composition skills. He concludes that it, used with a reliably scored writing sample, "should provide an excellent means of placing students in composition classes."

The teaching phase of the project at Northridge consisted of tutoring done by the coordinator and three peer tutors in the Learning Resources Center. They used the project syllabus-text, and the Writing Skills Library was available. Students who were either referred by instructors of writing courses or drop-ins thought, or at least said, that what they needed was a check of spelling and punctuation, but their real writing problems were often much more serious. Focus and organization were together the most common weakness in the papers brought to them. The students seldom wanted to do exercises; instead they wanted to work on their papers, and that was where the tutors usually found their teaching material.

The apparatus of syllabus, Writing Skills Library, and posttests were not found to be appropriate for this kind of spot tutoring. The self-contained lessons in Modules 1 and 2 were helpful, and short self-contained lessons on other common writing problems would also have been useful.

Dominguez Hills

The project materials were used in a one-unit class of twelve students in the Small College at Dominguez Hills. The two tutors under the supervision of a faculty member were able to cover only a part of the modules in the limited time, and as at Northridge the self-contained Modules 1 and 2 (steps in writing and revising a five-paragraph theme) were the most beneficial. Proficiency gained in completing the exercises of other modules, however, did not carry over significantly into the students' writing. The students experienced much difficulty in moving from one text to another, as required by modules other than 1 and 2, because of the texts' differences in format and terminology. The students in this experiment did respond well to individualized instruction in basic skills when it pertained to their own writing, but did not find the project materials very useful.

San Jose

San Jose's task was to survey and evaluate diagnostic tests and, if possible, develop a more satisfactory test than any currently available. Professor Rex Burbank, who has many years of experience in English testing, performed the survey. He could find only two published tests that met the criteria he established, and he also recommended trying out a test developed by his colleague, Professor Hans Guth. The two tests are the College English Placement Test (CEPT), also recommended in the Northridge survey, and the Descriptive Tests of Language Skills (DTLS), an as yet unfinished battery of tests being developed by the Educational Testing Service.

In Professor Burbank's judgment the CEPT, a 45-minute timed test (excluding the essay portion), covers a satisfactorily broad range of composition skills, but it fails to test adequately all the skills and areas of knowledge it tries to cover. Also, it contains a sprinkling of poorly constructed items.

The DTLS is a battery of eleven tests on particular composition skills. Its items, developed by teachers of English, do test in depth. Because individual tests in the battery take up to forty-five minutes, it would be impossible to test a wide range of composition skills adequately in a fifty-minute period.

Professor Guth's test covers vocabulary and diction, sentence structure, usage, and mechanics. Because his purpose was to produce a test that would be creative rather than error-oriented, two sections require the writing or rewriting of sentences. These would need to be hand-scored, which would limit its use for testing large groups of students.

No teaching from the project materials was done at San Jose.

Summary

This project brought home to its participants some useful lessons about materials for teaching remedial composition: the more individualized the instruction is, the more it needs to be centered on the student's own writing rather than on formal exercises; teaching materials are always most useful to the teachers who develop them and may or may not suit the needs of other instructors; the advantage of flexibility gained in a syllabus based on several texts is to some extent offset by the difficulty students have in crossing over from one format and set of terms to another. Materials of lasting interest or value produced in the project, besides the syllabus-text are the *Manual for Tutors*, the two studies of diagnostic and placement testing (Professor Robert Noreen's Northridge study was published in *College Composition and Communication* in May 1977), and perhaps Professor Guth's diagnostic test, which is still under revision at San Jose.

Other Projects

In the four projects described below different instructional formats were used to provide remedial or supplemental instruction. Only the first ventures far from traditional content.

San Diego: A Linguistic Experiment

This was a project to test a particular linguistic approach to remedial composition. Two sections of Study Skills 101, numbering thirty-eight students, were used for the experiment. The rationale underlying the experiment holds that remedial students, though they write badly, "have a perfectly normal and adequate control of verbal [i.e., oral] language" and that the problem in remedial composition is to "find a means of giving them conscious control of their internalized grammar, so they can put down words on paper as competently as they can speak them." The manner chosen to bring the students' internalized grammar to the conscious level was inductive. During the first two of the three weekly class periods, the students were given a sheet of data consisting of fifteen to twenty-five short sentences from which they were to extract a grammatical rule, for example, on the addition of the *-ed* suffix to verbs or on the formation of the passive voice. The hypothesis of the linguist conducting the experiment was that this experience – that is, working with a limited number of sets of data on grammatical rules or principles during the semester – would help the students straighten out their own problems with sentence structure and word forms. During the third class meeting each week the students wrote an impromptu theme, consisting of a thesis statement and arguments to support it.

The instructors in the experimental sections were two teaching assistants in linguistics. Their function was not really to teach, but simply to conduct the class; score the linguistic problems on the basis of the accuracy and completeness of the stated rule; and score the essays on the basis of adequacy of content, conformity to the prescribed form, and coherence. In the fall semester, when the course was given in its purest form, no other feedback was given students on their themes. In the spring, however, the T.A.s pointed out mechanical and other mistakes on request and during the last three weeks marked mechanics before returning the papers. The linguist director also furnished one written critique to each student in the spring semester. This constituted all the work of the course; there was no homework.

Control classes in this experiment consisted of four other sections of the same course, two of which were traditional lecture-discussion sections. The other two were individualized competency-based sections (the two experimental sections in the San Diego multi-campus project). A statistical analysis of pre- and posttest essays written by the three groups showed that 1) in all groups the students who began with the least ability benefited most from the instruction; and 2) there was no statistically significant difference in the improvement of writing skills among the three groups. A difficulty in evaluating this project is the uncertainty as to what part the unique content, the linguistic problems, played in the students' writing improvement; the improvement could have been due simply to the practice the students got from writing the weekly impromptu themes and what little feedback they had from the T.A.'s.

The inductive linguistic problems have aroused some interest outside the project, but replication of this method of teaching composition elsewhere will be limited by two factors: 1) an instructor using the materials needs some linguistic background and 2) many composition teachers, with or without linguistic background, are likely to find the course too confining. The final report on the project has been published as a monograph under the title *An Experimental and Evaluative Approach to Teaching Basic Writing Skills*, by Shirley Anne Rush and Suzette Elgin, 1977, Trustees of the California State University and Colleges.

San Jose: The Writing Laboratory

At San Jose a writing laboratory, called the English Skills Program (ESP) and operated by the English Department, offers individualized instruction in basic sentence skills to designated students in English 1A, the first semester of freshman English. Begun in fall 1975 with the help of innovative funds, the lab has continued this year with local funding and has expanded its services to include students referred from other composition classes. It serves about 1,000 students a semester, mostly freshmen of average or below-average ability in writing. About 55% of the students in English 1A are assigned units to complete in the lab on the basis of a short diagnostic test and a writing sample.

The curriculum of the lab is organized into five units plus two mini-units:

Unit A – Sentence Elements
Unit B – Sentence Recognition
Unit C – Sentence Arrangement
Unit D – Sentence Rhetoric
Unit E – Special Punctuation
Mini-unit F – Spelling
Mini-unit G – Use of Sources and Documentation

Learning is individualized and self-paced, although deadlines are set for completion of units assigned. No extra units of credit are given for work in the lab, but it does count in the student's English 1A grade. Special liaison tutors keep instructors informed of their students' progress in the lab.

The students, their tutors, and their instructors are convinced that the lab helps students improve their writing. Statistical analysis of last spring semester's pre- and posttest scores on the Test of Standard Written English and an essay showed that more students in classes that used the lab improved than did those in control classes. One reason for the lab's success is that its materials and procedures are subject to continual review and improvement. For example, selection of books and other materials has become more discriminating; error-oriented exercises and blank-filling have been dropped in favor of exercises that require the writing of sentences.

Fresno: Minicourses

At Fresno two faculty members from English and Linguistics have been engaged for two years in a project centered around the development of a screening/diagnostic test of basic writing skills and a parallel set of one-unit minicourses. The test, which takes forty-five minutes, is in four parts:

1. Spelling and Word Formation
2. Sentence Structure
3. Vocabulary Development
4. Paragraph and Essay Organization

Parts 1 and 3 are based on linguistic and psycholinguistic principles. Parts 3 and 4 contain some items similar to those in the College English Placement Test and CLEP tests in composition, but it is not a traditional test.

The test is not required but is given at the option of the instructor at the beginning of first-semester Freshman English classes. About 400 students took it in fall 1976. Students whose scores are in the low one third are advised to take one or more of the parallel minicourses, which meet daily for three weeks. A student can take three such courses in sequence during the semester. The lessons in the minicourses are largely inductive; for example, the students in the first course are required to infer and apply rules of English word structure. All the courses require some writing, with the fourth one including a writing assignment every other day.

The test has been modified and improved continually, as a result of student reactions solicited at Fresno and other CSUC campuses where it has been used. It was judged to be too long and too hard in its early forms, and a new, shorter version was issued in January 1977. The new version has been tried at Fresno and Northridge with very favorable student response.

Posttests in the minicourses invariably show substantial gains in the subject of the course. Attitude questionnaires have shown the first course, Spelling and Word Formation, to be the best liked of the group. A questionnaire on attitudes toward writing, given before and after the Essay Organization course, showed a significant gain in confidence about writing.

The test and the courses are a coordinated package and can most profitably be used together, though either can be used alone. The materials of the first three courses have now been published locally as workbooks, and similar texts for the fourth one and a recently added course in punctuation will be ready soon.

Los Angeles: The Writing Workshop

An experiment in its second year at Los Angeles is a course in basic writing skills designed for nonnative and Non-Standard English speakers by a linguist in the English Department. It is a Freshman English course taught one day a week in a four-hour time block.

Several different activities occupy the instructional time but the main activity is the writing of an essay. The whole process, from planning to proofreading, is accomplished by the student at each meeting of the class. Throughout the process, the student may call on a faculty member or trained tutors for help at any time. The rationale for this arrangement is that when students, particularly those who are not proficient in Standard English, face a writing task alone at home, they may become frustrated and resort to plagiarism or else get someone to write their paper for them; in the experimental course, the student has the support of a workshop situation throughout the task. Questionnaires have shown that the student's confidence about writing increases significantly in the course.

In the belief that such students have a better ear than a pen for coherent and correct English, the project director has included, each week, as part of the composing process, a twenty-five-minute session in a language laboratory. During this session the student reads aloud onto a tape what he has written, then listens as it is played back. An instructor at the console also listens and offers cues and suggestions. Ten students are tied into one console, and after a little practice a writing teacher can, in a twenty-five-minute session, listen to all ten, offer brief suggestions to each, and determine which students should get further help after the lab session.

Another experimental aspect of the course, introduced this spring, is a series of computerized lessons in grammar and composition which the students may use on their own time at any computer terminal on campus.

The experiment appears to be working. Student questionnaires show favorable responses to the methods of instruction as well as gains in confidence. Instructors report that their grading of the weekly papers indicates substantial improvement in organization, sentence structure, and conventions; error count for most students drops sharply during the term.

About 50 students took the course in the first experimental year, and about 200 will have taken it this year. Recognizing the fact that many nonnative and non-Standard English speakers, even those of high ability in a subject-matter field, require longer than one term to achieve college-level writing proficiency, the staff permits students to take the course a second or third time, and a number have done so. However, the practicality of the four-hour block for large numbers of students depends on the willingness of other departments to schedule lower division courses in such time blocks. One department, Speech Communications, has done so this year.

CURRENT PROJECTS

Six innovative projects initiated this year and still too new to judge may offer help to CSUC campuses in meeting the needs of students deficient in English language skills:

- A Learning Assistance Center (LAC) at Sacramento has been designed to work in close cooperation with academic departments. It offers individualized instruction in basic verbal skills, and the English Tutoring Center picks up where the LAC leaves off, providing higher level instruction in composition.
- Computerized lessons in grammar and composition are being developed at Northridge to supplement classwork in freshman composition.
- A project at Fullerton helps large number of undergraduate students improve their study techniques and their reading and thinking skills.
- A project at Bakersfield, codirected by a linguist and a psychologist, will describe the gap between teachers' assumptions about the cognitive/linguistic skills of their students and the skills which the students actually possess.
- Projects at Humboldt and San Jose help faculty members outside of English departments learn how to elicit more and better writing from their students and deal with it more adequately.

CONCLUSION

Common Elements of the Projects

Most of the funded projects on teaching writing have shared one or more of these three important features:

Peer tutoring, as a means of providing low-cost individualized instruction to large numbers of students. Earlier projects at San Jose and Northridge introduced peer tutoring in writing classes, and the San Diego multi-campus project and the WAT have since spread it to nearly all CSUC campuses. The demand for tutors has led to tutor-training courses on most campuses, and two tutor-training manuals have been published. A series of films on tutor training is presently being made at San Luis Obispo as a part of WAT. Among the side benefits of peer tutoring are the experience the tutors themselves get and the improvement in their own writing to which many tutors attest.

Modularized instruction, either in a course, as in the San Diego multi-campus project, or in separate minicourses, as at Fresno. Currently, minicourses reflecting the three objective sections of the new English Placement Test (Reading, Sentence Structure, Logic and Organization) are being developed at San Francisco and Sacramento. The advantage of modularized instruction is that it allows both the teacher and the student to establish more specific and limited goals than in a traditional composition course. The danger is fragmentation of the subject. The pedagogic convenience of breaking the subject into readily teachable and testable units may carry one to a point where the sum of the separate parts no longer equals the total complex skill, in this case expository writing. Examples of this excess can be found in some of the methods and materials marketed in recent years for teaching reading.

Classes to train faculty members to teach writing. In addition to the current projects at Humboldt and San Jose, such training has been offered on a number of other campuses as part of the WA program or as an activity of the Center for Professional Development.

The Projects and Their Ramifications

Although the experience of the past two years suggests that the most appropriate place of the WA is as an alternative to a standard advanced composition course on the sophomore or junior level, the WA is adaptable to a variety of needs from the freshman to the graduate level. Though complex to organize and administer, WA programs have drawn very favorable responses from students, faculty, and peer tutors. They have thus far been granted a permanent place in the instructional program at six CSUC institutions and will probably appear in others.

The second group includes projects which provide remedial or supplemental instruction for students whose proficiency in writing English is inadequate for college work. Formats for instruction in these experiments include the writing laboratory, minicourses, a course taught as a four-hour writing workshop, and a Learning Assistance Center. Most of these pilot programs have demonstrated their value and gained the needed support on their own campuses to continue, and dissemination to other campuses has begun. However, in the absence of substantial funding from outside current budgets, these programs all remain relatively small. They are only models for the much larger programs which will be required to meet the need the new placement test will make evident.

To what extent these efforts and those of previous years are unique among systems of higher education cannot be known without a national survey, but numerous faculty members have become known to colleagues in other states through their participation in these projects. At least a score of these CSUC faculty members have spoken or written publicly about their experiments and have been recognized for their work through appointment to committees or election to office in regional and national professional organizations. Inquiries about the projects, particularly the WAT, are continually received from other states. California is widely regarded as a place where fruitful ideas about teaching writing are being developed and tested, partly because of the CSUC innovative projects.

6

GIVING CREDIT WHERE CREDIT IS DUE:
A Progress Report on Credit by Evaluation

by Edward M. White

Definition and Administration

The theory of Credit by Evaluation is very simple: some students can and do learn outside of the classroom what most students only learn inside the classroom. The independent learner is entitled to receive an evaluation to ascertain if his ability and knowledge are equal to that expected of the students completing the college course. The function of the Credit by Evaluation Office is to increase opportunities for these able and independent learners to seek credit for what they have learned and to have such credit accepted in transfer from campus to campus. The CSUC has adopted the term "Credit by Evaluation" instead of the more common "Credit by Examination" in order to emphasize that examination is not the only assessment device available, and that even areas not appropriate for examination (e.g., Studio Art) may offer evaluation (e.g., by portfolio).

Nationally, the concept of credit by evaluation has been most energetically pursued by the College Entrance Examination Board (CEEB). The Advanced Placement Program (AP) began in the mid 1950s, encouraging accelerated high school students to take special classes in participating high schools to prepare for the AP tests in various college subjects. AP remains a high prestige program for students who have access to AP courses. In the mid 1960s, CEEB sponsored a second program for non-traditional students, the College Level Examination Program (CLEP), which has faced a more difficult problem of acceptance, since it functions outside of the high school or college instructional pattern. While both of these programs antedate the CSUC effort in credit by evaluation, until recent years neither of them had much impact upon students in the system. Few CSUC students took advantage of AP, and those who sought credit through CLEP ran into problems with local campus policies.

In practice, the simple theory of Credit by Evaluation becomes very complicated. Since proper evaluation instruments must reflect up-to-date learning and high standards in the various disciplines, it is important for faculty to oversee the Credit by Evaluation process. Faculty participation in the development or selection of testing instruments is essential if the process is to have the necessary credibility. Thus, the Credit by Evaluation Office has been heavily involved in faculty consultation in the disciplines which have considered Credit by Evaluation instruments and opportunities.

Faculty, in general, have viewed with caution examinations and other procedures designed to offer college credit without requiring class attendance. Many faculty know of invalid tests, sometimes well publicized, that are used for granting credit in their fields. Some faculty see credit by evaluation as an attack upon classroom learning, or upon learning itself. In addition, at a time of steady or decreasing enrollments, faculty sometime suspect that the attempt to offer credit by evaluation opportunities to students are motivated by economic considerations and may result in a loss of faculty positions. These and other problems need to be encountered successfully if the faculty are to assent to and participate in such programs.

Where these suspicions are overcome, through careful consultation, the result can be constructive in many ways. The able and ambitious student is, of course, the primary beneficiary. But discussion in this area also touches on many other areas of the university's curriculum. For example, the existence of different kinds of evaluation for credit has fostered a heightened awareness of the different kinds of instructional techniques which can lead to the learning which is to be evaluated. Again, the concern for the student who, on his own, has mastered the material of an introductory college course has led to a new interest in high school as well as college curricula and to an increased interest in articulation with high school instructors in the different disciplines. Thus, Credit by Evaluation not only is concerned with the student and his or her learning, but with the faculties in the several disciplines and with articulation between high school and college. A responsible evaluation program must concern itself with the creation of opportunities to learn, as well as with opportunities to be examined, and with the basic goals of the curriculum and the individual courses in that curriculum.

The Credit by Evaluation Office operates under Executive Order 271, which establishes an Advisory Committee on Credit by Evaluation to recommend policy in this area to the Chancellor. (See Appendix F.) The Advisory Committee consists of nine persons, four of them teaching faculty recommended by the Statewide Academic Senate; two campus administrators; and three administrators from the Chancellor's Office. The Committee has wide responsibilities to oversee and review all systemwide pilot programs, examinations, standards, policies, and procedures in its area of concern. Committee recommendations are also generally reviewed and endorsed by the Academic Senate before they may become policy.

National Programs

Three national programs offer examinations of one sort or another to students seeking college credit. Each has received some systemwide attention in recent years.

The Advanced Placement Program (AP) is sponsored by the College Entrance Examination Board and administered by the Educational Testing Service. This highly respected program offers examinations in several subjects which are normally part of the college curriculum. Executive Order 271 contains the systemwide policy, developed from faculty evaluation of the program: all students receiving scores of 3, 4, or 5 on an advanced placement examination will receive six semester units of credit.

The *College Level Examination Program* (CLEP) is also sponsored by the College Entrance Examination Board and administered by the Educational Testing Service. CLEP offers two different kinds of credit instruments: the general examination program with five examinations, presumably covering the general education areas; and the subject examinations, which deal with some forty different standard college courses.

- The CLEP General Examination Program.

  The five examinations in this program are: English, Mathematics, Natural Sciences, Social Sciences/History, and the Humanities. The only one of these examinations to gain systemwide approval is that in Mathematics. The English examination was resoundingly rejected by the English faculties in 1971 and 1972 as being invalid for its stated purpose. One of the major activities of the Credit by Evaluation Office during the last several years has been to organize orderly systemwide evaluation of the other three CLEP general examinations. A sequence of meetings beginning in fall 1975 brought together elected representatives from each of the campuses in each of the areas in order to consider the general examinations. After a year of careful deliberation, the committees were able to agree on a careful evaluation of these CLEP examinations and their role in the general education curriculum. The Humanities and Natural Sciences Committees both made detailed reports pointing out the extremely complex nature of these general education areas and the deficiencies of the sixty-minute multiple-choice CLEP tests. These committees disapproved of tests which tend to depend primarily on recall of facts rather than the principles important to those large fields.

Both committees recommended that it would be more fruitful for the individual disciplines in the fields to develop Credit by Evaluation instruments, which could become more searching and hence more valid. The Social Sciences Committee felt the CLEP examination was potentially useful, and recommended it be used as a screening test to be followed by a campus-developed test device as a second part of a Social Sciences examination. This recommendation was approved by the Advisory Committee and submitted through the statewide Academic Senate to the several campuses for further discussion.

Once again, however, the campus faculties thought that even this CLEP general examination remained inadequate to the widespread nature of a general education area, and they rejected the recommendation to use it. The committee reports were forwarded to the directors of the CLEP program in Princeton, New Jersey, and were instrumental in leading to the revision of this national program, which is now taking place. The general examinations will be revised and increased in length by 50%; it may be that the new versions will win faculty approval in their new forms.

- The Subject Examinations.

Numbers of the CLEP Subject Examinations have won faculty endorsement on the various campuses. However, student use of these examinations remains so infrequent as to make it difficult to obtain systemwide agreement on more than a few of them. In an attempt to develop information pointing to potential areas of agreement, the Advisory Committee on Credit by Evaluation requested the CSUC Office of Institutional Research to conduct a survey of campus policies and practices in Credit by Examination. That survey showed that very few students on any campus are taking advantage of the CLEP subject examinations to gain credit.* The Mathematics-Science program described below is an attempt to expand opportunities for students to use the CLEP examinations which have been endorsed by the faculty, and the Credit by Evaluation Office will continue to seek further endorsements of appropriate examinations.

**Credit by Examination: A Survey of Policies and Practices in The California State University and Colleges*, Analytical Study Number Nine (August, 1976).

- **The Proficiency Examination Program (PEP)**

  This is sponsored and administered by the American College Testing Program. This national program which has only recently become available to faculty for evaluation will soon be available, at campus option, for CSUC students. The principal agency of the CSUC involved with the PEP program has been The Consortium of the CSUC which has developed committees, under the sponsorship of the Credit by Evaluation Office, to evaluate the PEP examinations in the Health Sciences and Business. As The Consortium gains experience with these examinations, the Credit by Evaluation Office will seek to incorporate Consortium recommendations, where appropriate, into systemwide policy, through the usual consultative procedures.

Faculty Conferences in Credit by Evaluation

In addition to the three General Education Committees mentioned above, the Credit by Evaluation Office has convened faculty from the following fields to consider possible systemwide policy in Credit by Evaluation: American Government, Economics (Money and Banking), Biology, and Chemistry. A systemwide Mathematics Committee has also recommended a series of CLEP mathematics examinations for systemwide adoption, and these examinations are included in Executive Order 271. The biology and chemistry meetings described below exemplify the procedures used to develop faculty participation and faculty approval where possible.

Systemwide Sponsored Projects

The increase in opportunity for students which systemwide sponsorship of Credit by Evaluation opportunity can offer is exemplified by the following two systemwide projects:

The English Equivalency Examination (EEE)

In 1971 the English faculties expressed their disapproval of some of the examinations that were available for the award of college credit in English. The most commonly used examination for this purpose was the CLEP General Examination in English Composition, at that time a sixty-minute multiple-choice test. A student who was able to fill in a large enough number of the correct boxes on the examination received six units of credit for freshman English. The English faculties maintained that college English contained the very important components of reading and writing and the CLEP examination required very little or none of either. By the fall of 1972, a broadly representative English Council from all nineteen campuses had unanimously approved the new CSUC English Equivalency Examination. Each year since 1972 the CSUC English Council has approved, in general, both the content of the examination and its results.

A substantial number of students have attempted the examination in the first five years of the program, as the following chart indicates. Though each year fewer students apply (for reasons that are not clear), the relatively steady number of those passing indicates that the high academic standards of the test are becoming well known.

TABLE 9

STUDENTS APPLYING FOR ENGLISH EQUIVALENCY EXAMINATION CREDIT 1973-77

	Number Taking Test	Number Passing	Percent Passing	Semester Units Earned
1973	4,072	1,363	33.5	8,178
1974	3,639	1,036	28.5	6,216
1975	3,303	981	29.7	5,886
1976	2,866	1,093	38.1	6,558
1977	2,216	883	39.8	5,298
Five-Year Total	16,096	5,356	33.0	32,136

The test, administered each spring, consists of a three-hour examination divided in two parts. The first part is a multiple choice CLEP Subject Examination, "The Analysis and Interpretation of Literature." It is, essentially, a high-level reading test. The second portion of the examination consists of two forty-five-minute essays, which the students are asked to write in two different rhetorical modes. The essay test is created by two systemwide committees, each representing three different CSUC campus English departments. Each committee has its own set of criteria for its question, that is, its own set of requirements for the rhetorical mode the question requires. The essay test development work consists of months of committee meetings, trial testing of different sorts of essay questions, and several grading sessions.

The essay portion of the EEE is scored by a controlled essay reading conducted each year at the Kellogg West Conference Center on the Pomona campus. At least one English faculty member from each campus spends approximately a week at the reading. A scoring procedure of unusually high consistency has been developed: the interreader correlation (the agreement between reader one and reader two) for each of the two essay portions has been consistently above 0.8. Each year a norm sample of students completing freshman English provides additional statistics for the essay portion of the examination.

A full description of the EEE is published each year in the form of a monograph. Entitled *Comparison and Contrast*, 1973-76, the four volumes contain essay questions and scoring procedures, statistical reports and charts, correlations, norm studies, follow-up studies, and various appendices. Those interested in further information on the EEE may obtain *Comparison and Contrast* from New Program Development and Evaluation.

The results of the examination should be seen not only in the numbers of students affected, but also in the numbers of faculty affected. Every campus English department has been involved, most of them in both test development and test scoring. In one sense this program can be seen as a faculty development project. The effects have spread widely throughout the system and have been reflected in an increased sophistication both about examinations and about the teaching of writing. In addition, because the examination has been taken largely, though not exclusively, by high school seniors, concern for articulation between the high school English departments surrounding our college locations and our English faculty has increased. The community college faculties too have been kept fully informed. The year after the examination program began, the community colleges formed an English Council modeled on the CSUC Council, and since that time have been meeting with the CSUC faculty in order to stay informed and to communicate on issues

TABLE 10
ENGLISH EQUIVALENCY EXAMINATION SCORING DATA

	1973	1974	1975	1976	1977
Minimum Passing Scores					
Objective Part	45	45	45	45	45
Essay Part: Raw score on 0-24 scale (Scaled score on 20-80 scale)	13 (48)	13 (53)	13 (46)	13 (48)	14 (43)
Combined Score	100	105	99	101	92
Mean and Standard Deviation					
Objective Part					
Mean	47.448	49.444	47.180	48.995	47.060
Standard Deviation	8.854	9.001	9.069	9.425	9.119
Essay Part					
Mean	47.916	48.620	45.291	49.447	44.804
Standard Deviation	8.402	9.171	8.693	9.107	8.753
Combined Score					
Mean	95.363	98.064	92.472	98.442	91.864
Standard Deviation	14.869	15.855	15.402	16.456	15.616
Statistical Data					
Correlation Between CSUC Essay and CLEP Objective Tests	.4777	.5225	.5037	.5768	.53
Reliability					
CLEP Test	.88	.88	.88	.88	.88
Essay Test	.72 ± .18	.88 ± .15	.89 ± .14	.87 ± .04	.70 ± .11
Composite Score	.88 ± .05	.85 ± .05	.86 ± .04	.87 ± .04	.865 ± .035

TABLE 11
ESSAY READING

	1973	1974	1975	1976	1977
Number of Readers	75	49 —including 4 guest readers	44 —including 2 guest readers	32	32
Number of Colleges Represented	All 19 CSUC campuses	All 19 CSUC campuses and UCLA, UCSB, Stanford, Southern University in Baton Rouge, La.	All 19 CSUC campuses and UCLA and the University of Redlands	All 19 CSUC campuses	All 19 CSUC campuses
Number of Readings per Test	4	4	4	4	4
Total Essay Readings	Approximately 20,000	Approximately 20,000	Approximately 15,100	Approximately 14,400	Approximately 10,000

Weighting and Scaling

The essay score is converted by the equipercentile method to the CLEP scale (20-80), and the scores on both parts of the examination are added. Each part receives equal weight.

of general concern. Several years after that, the University of California, which had previously sent only a few representatives to the CSUC English Council, also formed an English Council; thus, over the last five years, this equivalency testing program has fostered a considerable amount of discussion across segments, among CSUC faculty, and in the profession at large.

Finally, the follow-up studies of the examination program being conducted by the CSUC Office of Institutional Research are likely to produce significant results by the time the five-year study is finished. The study is analyzing the college careers of the 4,072 students who took the examination in 1973; 81% of those students enrolled in the CSUC. The study seeks answers to various questions about student use of credits earned by examination and student performance after gaining each credit. The study should yield much useful information on the use of Credit by Evaluation in the CSUC.

Math-Science Equivalency Program

On May 14, 1977, close to 2,000 students are expected to take one or more of six examinations for college credit in the Mathematics-Natural Science area. The development of this program, which is expected to continue yearly, illustrates the need to develop Credit by Evaluation Programs in ways specific to particular academic disciplines.

Mathematics

In 1973, a committee of mathematicians, chaired by Professor Robert Hunt, then of CSC Bakersfield and also chair of the Educational Policies Committee of the Statewide Academic Senate, reviewed various CLEP examinations in Mathematics. The recommendations of this committee were approved by the Senate and became system policy when contained in an Executive Order issued by the Chancellor. The examinations will be reviewed again in the fall of 1977. As a result of the faculty review, the following CLEP Mathematics examinations were offered on May 14, 1977 as opportunities for credit:

CLEP General Examination in Mathematics
CLEP Subject Examinations in College
  Algebra-Trigonometry, Calculus and Analytic
  Geometry, and Statistics

Chemistry

The Natural Sciences Committee on the CLEP General Examination (see p. 104 above) recommended that the disciplines in the Natural Sciences consider Credit by Evaluation programs. As a result, meetings of biology and chemistry faculty were convened in December 1975 to review the CLEP subject examinations in these fields, as well as other existing or potential evaluation instruments. The meetings included representatives elected by each biology and chemistry department in the CSUC. Each representative received for study the earlier committee report and various background materials.

The chemistry meeting considered the CLEP examination and a similar test prepared by the American Chemical Society (ACS). The chemistry faculty agreed that both tests were appropriate, with certain drawbacks: the CLEP test was too hard, too "professional" for measuring competencies students are expected to gain in a general education chemistry course; the ACS test was not secure (it is easily available to faculty and perhaps to students) and hence might be very difficult to monitor. The conference recommended that both tests should carry three units of general education credit in chemistry (but no laboratory credit) if passed at the fifteenth percentile. The conference also requested that an elected subcommittee, chaired by Professor James Hill of CSU Sacramento, conduct norm studies on these tests.

These recommendations received the necessary approval and have been implemented. The May 14, 1977 test program included the CLEP Subject Examination in General Chemistry. The results of this test will be compared with the norm studies in order that a reconvened Chemistry Conference in fall 1977 may make further recommendations.

Biology

The biology faculty reacted to the CLEP Subject Examination in Biology much as did the Chemistry Conference. However, the biology faculty formed a subcommittee, chaired by Professor David Morafka, CSC Dominguez Hills, to create a CSUC Biology Equivalency Examination that would be more reflective of general education biology than was the difficult CLEP Subject Test. This committee worked with consultants Dr. William Abbott, Test Officer, CSU Long Beach, and Dr. Richard Harsh, ETS, to develop test criteria and test items. Of particular assistance to the committee was the CSUC SOCRATES computer test bank, with its accumulation of test items and computer test expertness. Dr. Oliver Seeley, the SOCRATES coordinator, in consultation with the committee, developed a closed item bank, which developed many new items and item types. Throughout this complicated procedure, the campus biology departments contributed ideas and sample examination questions.

Norming and pretesting in 1976 led to the inclusion of the CSUC – SOCRATES Biology Equivalency Test in the May 14 Math-Science test day. Norming of that test and the CLEP test will be presented to a reconvened biology conference in fall 1977 for further review and recommendation.

Administration

Professor James Hill, who was appointed director of the Math-Science program in 1976, has maintained overall coordination of the various committees, overseen the complex test administration, and developed materials to publicize the program to the students most likely to be able to profit from it. He is also coordinating the norm studies, follow-up studies, and evaluation meetings which will follow in fall 1977.

Conclusions

Credit by Evaluation Programs are a sensitive and important addition to college curricula; each program offers the unusually able and ambitious student valuable opportunities to advance and enhance his or her education. The CSUC has moved steadily forward to increase these opportunities, at the same time ensuring through careful faculty consultation, participation, and direction, the highest academic standards for these evaluation procedures. New Program Development and Evaluation funding of conferences, test development committees, project coordination, and program administration have allowed Credit by Evaluation to affect many thousands of students and hundreds of faculty.

Looking Backward and Forward

by John M. Smart

Program Impact

Have 700 projects, large and small, sponsored through the Fund for Innovation revolutionized a system of nineteen campuses and over 300,000 students? Clearly not, but a number of significant changes have taken place, some most subtle, which can be attributed to these projects and the Program as a whole.

Today there is within the system a greater awareness of alternative methods of instruction, and perhaps more important, a growing recognition by many faculty of the need for their own continued education and self-improvement in the methods of teaching and in the ways in which they work with students and interact with colleagues. In some measure the outcomes of specific projects have enabled faculty and campuses to better adjust to the reality of the end of the higher education growth cycle. The self-learning modules which make nursing instruction less costly in terms of faculty supervision, for example, pay dividends throughout the college curriculum. Experience gained through an interdisciplinary pilot project may lead to new teaching opportunities for faculty who may no longer be needed in their primary discipline if it has encountered marked enrollment declines.

In many projects faculty have been introduced to the instructional assistance which is available on their campuses. They have found that instructional design specialists and experts in technology can help them in a variety of ways to improve teaching effectiveness. The simple fact of engaging in a project has caused faculty to consider more explicitly what their instructional objectives are and what they believe essential for their students to learn.

Surveys of faculty project directors and participants reported in the foregoing chapters show a very favorable attitude toward their experience with new programs. With few exceptions faculty believe working in a project has led to professional growth. Especially in multi-campus projects and activities, the opportunity to interact with other faculty and instructional support staff on project development is seen as particularly rewarding.

Many students on CSUC campuses today have had direct, personal experience with methods of learning not based solely on the traditional format of lecture or laboratory. These experiences have been gained within the context of either the CSUC-sponsored projects or in similar efforts in the community colleges from which many of our students come. Though no single survey can fully explore student perspectives, many demonstrate that over the past five years student reaction to new methods of instruction is almost always favorable. Is this a reaction to simply the unique and different and merely the Hawthorne effect? No doubt this is true, yet it is probably the single most important motive for careful innovation and changes: experimental efforts bring excitement and stimulus to the faculty directing them and to the students who participate. The learning environment is improved as a consequence.

One survey, conducted under a mini-grant by Professors Mary Allen and David Cohen at Bakersfield, reflects student attitudes toward a variety of instructional methods (Table 12).

The Value of Individual Innovations

In previous reports on the Program for Innovation particular attention was paid to evaluating the several educational strategies tested in the pilot projects supported by the Fund. In great measure the general conclusions developed in previous years continue to apply.

Earlier reports indicated that each of the educational strategies tested in pilot projects has some educational value depending upon discipline, student characteristics, faculty experience, and campus environment. Those projects which have encountered difficulties seem to have failed because of director inexperience or other problems on the campus. These generalizations still hold true. No one instructional approach has been conclusively proved ineffective, nor, on the other hand, has any single approach proved to be clearly superior over any other. Until such time as a general learning theory is developed which is demonstrated to be universally applicable to all individuals, it is inappropriate and inadvisable to depend upon one instructional and learning model.

Modularized instruction continues to be the focus of a number of projects, as it was in the early years of the Fund, though the number of projects emphasizing this method of presenting course content has declined in the last two years. As noted in the 1975 report, most of these projects have demonstrated substantial educational value in terms of the quality of student learning and the flexibility the method provides for both students and faculty. However, wholesale conversion of curricula to module format is not likely to occur.

The numbers of students using modules, faculty workload required to help students who may be working on different modules at different times, and initial preparation time need to be taken into account when determining whether modules are a good form for instruction. And the extent to which the modules can be designed for self-learning with minimum assistance from the instructor must be considered. Greatest success seems to have been achieved with modules designed to supplement instruction for remedial, review, or enrichment purposes.

Self-paced learning when associated with modularized instruction has encountered difficulties. Student tendencies to procrastinate unless fairly rigid deadlines have been imposed have presented difficulty to several projects throughout the course of the Program. While increased student responsibility for their learning has been one of the premises of the Program, it is quite clear that many are either not prepared or do not wish to accept that responsibility. An associated concern in self-pacing is the extent to which there is contact with other students. Some, especially returning adults, feel the need for peer support and may avoid programs which require them to undertake coursework independent of others.

Modularized instruction on the PSI format continues to prove successful in CSUC programs as it has in experiments nationally. While self-pacing is a component of PSI models, it is restricted, and the procrastination potential minimized. The subject matter of mathematics and related areas lends itself particularly well to the approach, and indeed PSI and its many variations have been demonstrated effective in so many contexts that they probably should not be considered to be innovative any longer – but this, of course, could be said of other instructional approaches as well.

TABLE 12

PROPORTION OF RESPONDING STUDENTS EXPRESSING A FAVORABLE ATTITUDE TO:

n	Method	Proportion
152	Internships	97%
175	Experiential Learning	97
142	Student Initiated Courses	95
223	Audiovisual Techniques	90
143	Competency Based Learning	89
137	Interdisciplinary Courses	88
237	Written Exams	80
106	Total Involvement Courses	76
126	Mini Courses	76
188	Team Teaching	75
230	Grading on an A-F Basis	75
236	Lecture	74
198	Use of Student Assistants	72
202	Grading on a Credit/No Credit Basis	71
112	Computer Assisted Instruction	69
153	Self-Paced Instruction	68
194	Inquiry Method	63
173	Oral Exams	59
227	Term Papers	56

Attitudes Toward Instructional Methods at CSC Bakersfield, CSUC, 1976.

Many projects have been designed to make use of the various media in instruction. Support from the Fund has enabled faculty to take full advantage of television, the computer, slides, audio-cassettes, film and media in various combinations. However, marked increases in student learning due exclusively to the use of a particular medium cannot be demonstrated. The value of so-called mediated instruction lies in flexibility, better presentations of certain kinds of subject matter, and opportunities for self-learning and review which do not depend on the instructor. Instruction relying on media, television for example, can be costly. The cost of a well-developed television course is such as to require that it be used for the instruction of large numbers of students over several terms. The repeated use of television tapes produced in CSUC projects in nursing, special education, and geology, however, have proved to be cost-effective in the long term.

The computer is now widely used in instruction in nearly all disciplines. The Fund has supported a number of experimental efforts, usually projects which have involved using the computer in new ways and in subject matter not usually associated with it. The Fund, as well, has supported the establishment of a computerized test item data bank for the system (SOCRATES). These projects demonstrate that while there is no question that the computer is an effective instructional tool which can be used in imaginative ways to support instruction (e.g., a computerized advisement system for credential candidates in communicative disorders is one example of such a project), those planning new efforts in computer applications should be cautioned. Project directors must fully understand the hardware and software requirements of their project. Changing equipment and the extent of the effort needed to adapt programs developed elsewhere have caused delays in nearly every project involving extensive use of the computer funded since 1972. These delays usually stretch one year projects into two.

Time-shortened degree programs received attention in the Program at the outset, with major experiments undertaken at Dominguez Hills (Small College), San Francisco (School of Behavioral and Social Sciences), and Bakersfield (all college). Due to a variety of factors including limited student interest, such programs have failed to become widespread, at least in the forms tested. Difficulties in revamping curricula have made offering comprehensive programs difficult. Reduction of course requirements through credit by evaluation and credit for prior learning potentially contribute to time-shortening though some evidence to date suggests many students who may gain credit through, for example, the English Equivalency Examination, take other courses in the subject area in lieu of those which they would otherwise be required to.

Significant progress has been made in developing a concerted program in credit by evaluation as Part Two, Chapter 6 has disclosed. Although representative faculty groups find many of the available national examinations unsuited to the needs of the CSUC system, they have developed examinations which do, such as the established English Equivalency Examination and the new biology test, administered for the first time in May 1977. Others will be created only when there is general agreement on the nature of the contents and when there is a sufficient number of potential test takers to warrant the time and effort required to develop a sound examination. The expectation is that the number of systemwide and systemwide-approved examinations will grow slowly, will be small in number, and will be confined primarily to general education subjects. Efforts to resolve issues relating to workload credit for campus-based credit by evaluation are still needed despite two years of work by a representative system committee. Regardless of the ultimate conclusion, it is expected that campus policies will vary to a substantial degree on the extent to which credit by examination is encouraged throughout the curriculum. One can say that the active debate on the merits of credit by evaluation has led to more opportunities campus by campus and that the stringency with which academic standards have been enforced has led to greater support of the principle of credit by evaluation throughout the system.

Experiential learning under faculty direction (sponsored learning) has received attention in projects funded by the Program. The educational values of cooperative education, internships, and supervised field experience have been demonstrated in these projects as well as many others throughout the country. A 1975 survey disclosed some 12,000 students in CSUC have participated in field work (excluding teacher education and health science clinical experience) with over 2,000 agencies participating. The number of students and sites today is probably much greater than two years ago. In part stimulated by student interest in getting a jump on the job market once they graduate, sponsored experiential learning may be perhaps the most pervasive reform to occur recently in American higher education.

Academic credit for prior learning is still clearly in the experimental stage on CSUC campuses – and indeed elsewhere as well. A program at San Francisco is now well established which offers general education credit for students who demonstrate by a portfolio that their experiences include elements of academically creditable learning. In 1977-78 Long Beach will launch a program somewhat similar to that of San Francisco; a small program already has been begun at Bakersfield in social science. Campus policies have also been adopted at Chico and Dominguez Hills. Careful evaluation of the successes of students receiving such credit and the best methods of evaluation will be required before widespread adaptation of credit for prior learning models can be expected in the system.

Educational simulations and games have been tested in several projects and have proved their potential to be useful instructional tools, of interest to students, and to be stimulating to faculty directors. Readily applicable to subjects such as history, the simulation can involve students (and faculty) in role playing of various kinds. Expanding use of the technique can be expected, but additional operating costs such as travel from campus to campus in inter-university simulations, computer time, and other expenses may dampen enthusiasm to some degree.

Changing Dimensions

The Program for Innovation has changed from its first year, for indeed a program of this sort needs to generate objectives deliberately as it moves forward and new areas for emphasis are identified and different processes are adopted. Though continuing to fund discrete projects which test and apply innovations in instruction, the Program is today emphasizing the *process* of change as well as the experimentation with instructional approaches. Given the conclusion that each of the educational strategies tested so far seem to have some merit in some contexts, the need is to make faculty aware of them and to assist faculty to make use of those which best fit their teaching styles and their campus environment.

A major part of the Fund's emphasis in the past three years, and continuing into the coming year, is faculty or professional development. This emphasis contributes to the objective not only of making faculty aware of the educational strategies available to them but also, as Part Two, Chapter 4 makes clear, to that of assuring that the campus environment encourages new ideas and processes. Coupled to the faculty development emphasis is the dissemination effort of the Fund. Newsletters, conferences, monographs and workshops have all been employed to disperse project results as widely as possible.

In the last two funding cycles the Fund has encouraged projects in basic skills, particularly written communication. Outlined in Part Two, Chapter 5, these projects and their results provide for CSUC campuses a menu of approaches for improving student writing skills. Development of new campus programs is clearly called for in the Trustees' policies requiring the English Placement Examination and in their efforts to seek special support for remediation and learning assistance centers. The projects in basic skills have represented a response to a perceived problem area for the system in which innovation is needed and experimentation required.

The climate for constructive change is profoundly influenced by the growth and the evolutionary cycle of an institution. In the steady state, few CSUC campuses anticipate further growth while others have experienced or will experience a reduction in enrollment. In 1977-78, and projected at least through 1978-79, the Fund is supporting a project at Dominguez Hills and joint effort of San Francisco and Sonoma to address the challenges of the steady state in ways which will lead to the full use of faculty talents and to expansion of opportunities for students. A premise underlying these projects is that even without growth there is a potential for significant reform which will enable the institution to remain vital.

In the last year a major activity of the Fund has been to support efforts directed at inter-system cooperation. A first step was the linking of the CSUC Program for Innovation with its counterpart at the University of California through use of the Instructional Improvement Information Service database at U.C. Irvine. A second, more significant step, has been the organization of joint conferences and workshops designed to address common problems. Two conferences have been held exploring issues of the skills needed by entering college freshmen, and a workshop offered for faculty development directors from the two systems. High school and community college representatives are being involved as well in these programs, the results of which affect admissions policies, curricular reform and articulation. A third step will be the support for joint projects. In 1977-78 joint projects will be undertaken between U.C. Davis, U.C. Riverside, and CSU Fullerton, in reading skills; U.C. Davis and CSU Sacramento in English Composition; and a multi-faceted program between the Los Angeles Community College District's New Dimensions and CSC Dominguez Hills. In this context another phase of joint UC-CSUC cooperation should be noted: The Ventura Learning Center where campuses from the two systems offer a number of degree programs.

Lifelong learning and its various aspects have been addressed in several projects in the past two years, reflecting increased awareness of the needs of adults in the CSUC, particularly in its on-campus programs. Supported by the Fund through the CSUC Consortium, projects have developed programs which contribute to expansion of credit by evaluation and which have explored the need for a credit registry. Other projects have addressed the needs of returning women students. This program dimension will continue to be a major part of the Fund's program in coming years.

Looking Forward

Several concerns which will doubtless affect the CSUC system in the future will be of particular importance to the Program for Innovation.

- The steady state with its pressures of *reduced enrollment and static faculty* populations could make innovation and change more difficult. The Fund in its steady state projects may be able to demonstrate some steps which may be taken to assure continued flexibility in institutional development. A priority area identified by the California Postsecondary Education Commission (CPEC), the steady state cannot be allowed to result in the elimination of research and development efforts, when they are most needed if colleges and universities are to remain useful institutions to the public.

- The *basic skills* of entering students will continue to be of major concern to the CSUC and other segments of education in the next few years and will be singled out for special planning and program development projects. The Fund will play a major role in facilitating the dialogue and cooperation essential for all segments to address the problems of competency specification, diagnosis and design of instructional programs needed to address student weaknesses.

- The *content of the baccalaureate* has been a matter of wide discussion and debate throughout the CSUC system during the past five years. This concern will continue to be addressed by the system's faculty and administration in the years ahead. The Program can contribute, as it has in the past, by addressing this concern through the sponsorship of systemwide meetings and through specific projects which address the competencies expected of graduates in given subject areas. Unfortunately the road to securing consensus among faculty on the skills and knowledges expected of their graduates is remarkably arduous and ill-defined, especially within a large system of public colleges and universities.

- *Faculty promotion* in many disciplines in the years ahead may require extraordinary demonstration of productivity on the part of young faculty, given the shortage of positions and the intense competition among well-qualified graduates. While the CSUC system is composed of teaching institutions, competition for few positions and promotion opportunities may lead to a greater stress on research and publication as promotion criteria than has been the case on many campuses in the past. In the process, innovation in instruction can be given short shrift. Organized faculty development programs can be a countervailing influence by underlining improvement in instructional effectiveness as a desirable objective for faculty and departments.

- *Collective bargaining*, when, and if, it is accepted for the system, may have impact on the opportunity and availability of special support for instructional improvement and faculty development. Potentially the form and substance of the Program for Innovation could be changed depending upon the scope of contract agreements.

- Shifts in student demand, another priority of CPEC and the subject of Program Change Proposals in the last two CSUC budget cycles, will have impact on the Fund. There seems to be some tendency for faculty from subject areas which have lost enrollment to seek project funding motivated by a perceived need to make programs more attractive to students and to gain assistance in developing new programs which will meet with greater demand. Fine distinctions confront those who will define the direction of the Fund in future years lest it be used to underwrite artificial student demand and unneeded curricular variations even though at the outset they appear innovative and promising.

- *Maintaining program vitality* is a concern of any program after several years of operation. The evaluation of program guidelines and emphasis during the past five years reflects the capacity of the Program to adjust to meet new needs. The increase in project proposals by roughly 50% in 1977 over the 1976 competition bears witness to continued interest from faculty. The wide variation in the number of project proposals received from campuses is, however, a cause for concern. Each campus should believe that it has a stake in the Program for significant progress and continued success to be assured in the coming years.

APPENDICES

A Proposal Review Process and Task Force Members 1975-76, 1976-77

B Abstracts of Projects 1972-1976

C Mini-Grants 1975-76, 1976-77

D Publications of the Division of New Program Development and Evaluation

E Selection Procedure of the Six Campuses to Receive Initial Support (1974-77) Through the Center for Professional Development

F Executive Order 271

G Campus Coordinators 1972-75

H Emphasis Area and Final Allocations for Projects 1975-76, 1976-77

I Projects by Discipline 1975-76, 1976-77

APPENDIX A

PROPOSAL REVIEW PROCESS

In January copies of the "Call for Proposals" are sent to the campuses. The call both outlines the program criteria and guidelines and gives information about the formal preparation of the proposals to faculty. Members of the staff of New Program Development and Evaluation visit the campuses to talk to those who think they would like to apply to suggest ways of making their presentation effective. The deadline for submission is set for early May. Proposals are transmitted from the campuses to the office of New Program Development and Evaluation. Cards are sent to applicants acknowledging receipt.

The proposals are then read independently by members of the staff. And they are sent to a group of consultants, persons chosen for their experience with innovation in higher education and who are not part of the CSUC system. Some proposals are read too by specialists in the field.

After reading and rating each proposal privately, members of the staff meet with consultants during a two-day period to review proposals collectively. Evaluations (based on a scale of 1 to 5) are made; comments on strengths and weaknesses and suggestions for modification and budget changes are noted.

Much the same procedure is followed at the meeting of the Task Force, usually scheduled early in June. The Task Force, chaired by the Vice Chancellor for Academic Affairs, includes the State University Dean of Educational Programs and Resources, three representatives from the Academic Senate, campus Presidents, and two student members. They review proposals independently. Then at the meeting, comments from the staff-consultant review are made available to them. They discuss the suggested projects over two days. Finally, they recommend a group of proposals which they believe test a variety of different approaches and which seem to have the greatest potential for improving the educational experiences of students. Recommendations of the Task Force are then presented to the Chancellor. After he reviews the proposals and makes his selection, all applicants are notified of the results of the competition.

MEMBERS OF TASK FORCE ON INNOVATION

1975-76

Alex C. Sherriffs
Vice Chancellor
Academic Affairs

Alistair W. McCrone, President
Humboldt State University

Judson Grenier
Professor of History
CSC Dominguez Hills

Karl Kumli
Professor of Chemistry
CSU Chico

Stephanie Harriman
Student Representative
San Francisco State University

Anthony J. Moye
State University Dean
Educational Programs and Resources

John M. Pfau, President
CSC San Bernardino

Judith Hunt
Professor of Psychology
CSU Hayward

Arthur Bernstein
Student Representative
San Diego State University

1976-77

Alex C. Sherriffs
Vice Chancellor
Academic Affairs

Alistair W. McCrone, President
Humboldt State University

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CSC Dominguez Hills

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State University Dean
Educational Programs and Resources

A. Walter Olson, President
CSC Stanislaus

Judith Hunt
Professor of Psychology
CSU Hayward

Arthur Bernstein
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San Diego State University

APPENDIX B

CSUC INNOVATIVE FUND PROJECTS 1976-77

ABSTRACTS

The following abstracts of projects funded by the Division of New Program Development and Evaluation of The California State University and Colleges are derived from the University of California-CSUC Database. Information on over 1,200 instructional improvement projects is maintained on the database by the University of California at the Irvine campus. Access is possible through terminals on the campuses. CSUC Campus Coordinators can assist those interested or persons may contact the New Program Development and Evaluation Office. Users can browse or zero in on specific kinds of projects. Keywords enable the user to obtain an index of projects according to types of instruction, subject matter, academic field, cost of program, campus, or project director.

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INDIVIDUALIZED INSTRUCTION

#1072 INTERDISCIPLINARY

MODULES FOR INDIVIDUALIZED INSTRUCTION

To provide students with a modularized program of alternative routes to the baccalaureate. CSUC funds were combined with substantial extramural funding to support the campuswide Carnegie/PACE and NSF/COSIP programs. 5 types of experimental approaches were emphasized: challenge-by-examination; experiential learning; expanded use of diagnostic tests and pre-college qualifications; comprehensive examinations for disciplines and segments of disciplines; and modular courses and programmed learning/autotutorial packages. Live-learn and live-study centers were a feature of the program in which 1,500 students were involved in 1972-73.
Budget Requested: $133,840 Budget Awarded: $74,622
John Coash

@BAKERSFIELD COASH DEAN INTERDISCIPLINARY LOWER/UPPER-DIV
@SELF-PACED-LEARNING PSI CREDIT-BY-EVAL EXPERIENTIAL-LEARNING
@AUTOTUTORIAL AUDIO-VISUAL CENTER TESTING PROGRAM
@DEVELOPMENT RESIDENCE-ACTIVITY EXTRAMURAL CSUC CSUC-1 1972
@FUNDS-074622

#1075 PSYCHOLOGY

TRANSITION TO SELF-PACED LEARNING IN PSYCHOLOGY

To design a modularized course series to gradually introduce lower division psychology students to self-paced methods of learning. Each unit is designed to operate independently and in any sequence, so that instructors can select and order the units to supplement and enhance their courses.

The developed modules help students to adapt to the freedom and individual motivation required for the upper division modularized courses produced in 1973-74. Student autotutorial skills were strengthened by their involvement as experimenters, subjects, and data collectors in demonstration and experiments. 80 percent of 130 students participating in the program evaluated the course and the materials positively.
Budget Requested: $12,944 Budget Awarded: $10,550
Mary Allen

@BAKERSFIELD ALLEN LECTURER PSYCHOLOGY SELF-PACED-LEARNING
@PSI LOWER-DIVISION COURSE REVISION AUTOTUTORIAL DEMONSTRATIONS
@DISCOVERY-TECHNIQUE STUDENT-OPINION CSUC CSUC-1 1974
@FUNDS-010550

#1089 INTERDISCIPLINARY

SMALL COLLEGE PROGRAM DEVELOPMENT AND EVALUATION

To provide supplementary funds for the evaluation component and for additional planning and curriculum testing at the Small College, an alternative college within a college. Originally funded by Carnegie as a time-shortened baccalaureate degree experiment, Small College at Dominguez Hills aims to tailor the student's program to his/her individual needs. Small College general education courses are oriented toward topics rather than surveying entire disciplines.

4 interdisciplinary areas of concentration – civilizations, human studies, science, technology and society, and environmental sciences – replace conventional "majors" in a single discipline. Students at Small College also complete a thematic project on a single theme of their own choosing. Among the innovative techniques employed in Small College are: classes of differing length, variable unit courses, faculty exchange, peer-teaching and self-pacing. One of the classes begun in Small College, the Writing Adjunct, an alternative to freshman composition evolved into a 1975 multicampus pilot project which was refunded in 1976.
Budget Requested: $27,736 Budget Awarded: $32,555
Robert M. Bersi

@DOMINGUEZ-HILLS BERSI DEAN ENGLISH WRITING ALL-LEVELS
@INTERDISCIPLINARY SELF-PACED-LEARNING PSI TUTORIAL TEAM-TEACHING
@PEER-TEACHING DISSEMINATION PROGRAM DEVELOPMENT EXTRAMURAL
@HUMANITIES CSUC CSUC-1 1972 FUNDS-032555

#1096 BIOLOGY

PSI CENTER FOR LAB PREVIEW IN IMMUNOLOGY AND VIROLOGY

To establish a self-instruction center where students preview laboratory work in immunology and urology using an individualized self-paced format. 10 films, ranging from 23 to 30 minutes in length, were developed. The films enabled students to use their laboratory time more efficiently by reviewing introductory material prior to the laboratory session. 48 students initially made use of the facilities and materials developed under this program.
Budget Requested: $11,545 Budget Awarded: $11,840
Karl Kleeman

@FRESNO KLEEMAN ASST-PROFESSOR BIOLOGY SELF-PACED-LEARNING
@PSI CENTER AUDIO-VISUAL FILM AUTO-TUTORIAL COURSE-LABORATORY
@UPPER-DIVISION COURSE REVISION MEDICINE REMEDIAL/REFRESHER
@CSUC CSUC-1 1974 FUNDS-011840

#1097 GEOGRAPHY

DEVELOPMENT OF A SELF-GUIDED GEOGRAPHY FIELD STUDY MODULE

To design a self-guided field study module for a specific geographic region to enable students to familiarize themselves with man-land relationships, man's modification of the landscape, and man's regional-functional organization of economic activities. A written field log was prepared describing significant physical and cultural features of California's southern Mother Lode country. Audiotape commentaries were also prepared which included a description and analysis of each site to be visited.

The 3-day field trip can be taken by students when time and schedules permit. Of 67 students enrolled in the course in spring 1975, 50 completed the course and earned 1 unit of academic credit.
Budget Requested: $11,452 Budget Awarded: $12,661
Merrill Stuart

@FRESNO STUART ASSOC-PROFESSOR GEOGRAPHY SELF-PACED-LEARNING
@AUDIO TAPE-RECORDING LOWER-DIVISION OFF-CAMPUS-LEARNING COURSE
@REVISION TRAVEL ENVIRONMENTAL-STUDIES CSUC CSUC-1 1974
@FUNDS-012661

#1098 STUDENT-ACTIVITIES

"IDEA"

To offer suitable instructional programs in response to self-reported needs of entering freshmen. A second objective of the project was to increase student awareness of learning experiences available at the university. The 4 major components of the project were identification, development, evaluation, and assignment. Directors of "IDEA" made use of data on the Scholastic Aptitude Tests (SAT) and high school performance reports to provide students with guidance in selecting suitable instructional programs and information in areas of self-reported student needs for basic skills.

During the academic year the project took a different course and "Early Bird," a program designed to provide high school students with educational/vocational training, replaced it. 75 students completed the "Early Bird" program.

Budget Requested: $5,896 Budget Awarded: $6,173
Roger Bailey Richard Arndt

@FRESNO BAILEY ARNDT COORDINATOR SUPPORT-SERVICES
@STUDENT-ACTIVITIES SURVEY LOWER-DIVISION TESTING PROGRAM
@DEVELOPMENT EVALUATION CSUC CSUC-1 1974 FUNDS-006173

#1111 BUSINESS-ADMIN

COMPETENCY BASED PROGRAM IN BUSINESS ADMINISTRATION

To develop and implement a time-flexible, performance based program. 3 courses in the core curriculum for majors in business administration were changed in teaching format. These courses were video taped for presentation on a self-paced, time-flexible demand schedule.

49 students took part in the 1972-73 program. Although the project achieved its objective, it was not continued because of reallocation of resources required.

Budget Requested: $49,034 Budget Awarded: $37,747
Allen Schuh

@HAYWARD SCHUH ASST-PROFESSOR BUSINESS-ADMIN ECONOMICS
@LOWER/UPPER-DIV SELF-PACED LEARNING PSI WORKSHOP TV TV-TAPED
@DISSEMINATION COURSE REVISION AUDIO-VISUAL CSUC CSUC-1 1972
@FUNDS-037747

#1112 PSYCHOLOGY

COMPETENCY ASSESSMENT PROCESSES IN RECREATION CURRICULA

To improve the processes utilized to assess student potential and progress at different points in a recreation major's academic career. The project sought to 1) define competencies which should be possessed by recreation graduates; 2) develop techniques for assessing these competencies in student populations; and 3) pilot test techniques most likely to yield useful data.

The 5-member project team was composed of recreation faculty from San Francisco and San Jose and recreation and educational/psychology faculty from Hayward.

Budget Requested: Not Available Budget Awarded: $12,227
William Niepoth

@HAYWARD NIEPOTH PROFESSOR RECREATION EDUCATION PSYCHOLOGY
@UPPER-DIVISION PSI SELF-PACED-LEARNING EXPERIENTIAL-LEARNING
@COURSE EVALUATION PRE-POST-TEST COMMUNITY-STUDIES CSUC CSUC-1
@1972 FUNDS-012227

#1115 POLITICAL-SCIENCE

AUTOTUTORIAL MODULES FOR INTERNATIONAL RELATIONS

To create 20 audiovisual modules for use in autotutorial assignments in general education classes in International Relations. Filmstrips will be produced consisting of material in the form of quantitative charts, photographs of examples in the news, and visual conceptions of abstract ideas and principles.

A comparison will be made between students using the materials and a control group using traditional methods to test the effect of this approach on the motivation of students to learn the materials and participate in class.

Budget Requested: $19,912 – Budget Awarded: $15,460
Darril Hudson

@HAYWARD HUDSON ASSOC-PROFESSOR POLITICAL-SCIENCE LOWER-DIVISION
@AUTOTUTORIAL SELF-PACED-LEARNING AUDIO-VISUAL VISUAL
@FILM-STRIPS COURSE REVISION INTERNATL-RELAT PHOTOGRAPHS
@COMP-GROUPS CSUC CSUC-1 1976 FUNDS-015460

#1126 NURSING

ITV SELF-LEARNING MODULES IN NURSING

To accelerate student learning and increase the number of students taught by a faculty member through the use of instructional television program modules on a self-learning basis. 30 instructional program modules of varying lengths of time were produced for a wide variety of nursing courses. These modules increased the efficiency of the clinical portions of the courses in particular by allowing students on campus to see, via videotape, how concepts learned in class were applied in real patient situations in hospitals and clinics. 867 students made use of the tapes which are still in use at CSU Los Angeles and are part of the 14-campus curricular materials exchange program.

Budget Requested: $65,171 Budget Awarded: $69,541
Donel W. Price

@CSUC-LA PRICE DIRECTOR NURSING MEDIA LOWER/UPPER-DIV
@SELF-PACED-LEARNING VISUAL AUDIO-VISUAL AUTOTUTORIAL TV
@TV-TAPED PROGRAM DEVELOPMENT CSUC CSUC-1 1972 FUNDS-069541

#1127 NURSING

SELF-PACED COURSES IN PRESCRIBED NURSING STUDY PROGRAM

To investigate possible administrative changes needed to implement principles of self-directed learning and self-paced progress. The project sought to increase student numbers and to shorten student achievement time without decreasing achievement levels.

3 nursing courses were prepared using mediated self-learning materials. The courses were offered on an experimental basis which allowed the 228 students involved to study, test, and progress at their own pace. The comparison between the findings in the experimental courses and their traditional counterparts resulted in implementation of the self-paced method in a new nursing curriculum at CSU Los Angeles. The materials developed served as the basis for an intercampus project in 1973.

Budget Requested: $24,819 Budget Awarded: $23,395
Ann Sloat

@CSUC-LA SLOAT ASST-PROFESSOR NURSING LOWER/UPPER-DIV
@SELF-PACED-LEARNING AUDIO-VISUAL COMP-GROUPS TV TV-TAPED
@DISSEMINATION PROGRAM REVISION CSUC CSUC-1 1972 FUNDS-023395

#1135 COMMUNICATIONS

SELF-PACING INDIVIDUALIZED RETRIEVAL OF INFO BY TV (SPIRIT)

To offer courses from separate academic disciplines in an instructional television format. Program objectives included: to devise a flexible instructional approach as an alternative to the traditional lecture-discussion format; to encourage the student to take more responsibility for his or her own instructional program; to utilize credit by examination techniques; and to increase the student-faculty ratio.

38 students were involved in the first year of the program.

Budget Requested: $105,684 Budget Awarded: $84,560
Donald Wood

@NORTHRIDGE WOOD ASSOC-PROFESSOR COMMUNICATIONS MEDIA
@INTERDISCIPLINARY LOWER/UPPER-DIV SELF-PACED-LEARNING
@AUDIO-VISUAL TV TV-TAPED CREDIT-BY-EVAL DISCUSSION-GROUPS
@COURSE DEVELOPMENT CSUC CSUC-1 1972 FUNDS-084560

#1138 ENGLISH

INDIVIDUALIZED INSTRUCTION IN FRESHMAN COMPOSITION

To develop a one-semester skills development course for freshman composition. The students were administered diagnostic tests to determine what skills they possessed. The materials prepared for the course focused on skills development, rather than on error identification. The students moved through the course as rapidly as competence was achieved, providing instructors with more time for offering personalized instruction to slower students.

A writing lab was set up to utilize the materials developed in this program. 200 students participated in the project which provided a model of individualized instruction for other campuses within the system. The method was refunded as a multi-campus project in 1974

and implemented at San Diego, Sacramento, Fullerton, and Chico.
Budget Requested: $63,500 Budget Awarded: $39,357
Robert Noreen

@NORTHRIDGE NOREEN ASSOC-PROFESSOR ENGLISH WRITING
@LOWER-DIVISION SELF-PACED-LEARNING PSI PEER-TEACHING
@DEPT-LABORATORY TESTING COURSE REVISION CSUC CSUC-1 1973
@FUNDS-039357

#1142 ENGLISH

SELF-PACED COMPUTERIZED LEARNING AIDS – FRESHMAN ENGLISH

To increase the quality and efficiency of instruction in Freshman English composition by providing programmed computer lessons to reinforce classroom teaching. Each lesson will be a complete unit of instruction, containing 10 sets of questions. The lessons provide self-paced instruction not only for students in Freshman composition, but for all users of the English Writing Lab.

Pre- and postdiagnostic tests will be administered to a class using the computer lessons and to a traditional class.
Budget Requested: $13,824 Budget Awarded: $12,673
Annamarie Peterson

@NORTHRIDGE PETERSON ASSOC-PROFESSOR ENGLISH WRITING
@LOWER-DIVISION COMPUTER AUTOTUTORIAL PRE-POST-TEST
@DEPT-LABORATORY COURSE REVISION SELF-PACED-LEARNING PSI
@COMP-GROUPS CSUC CSUC-1 1976 FUNDS-012673

#1144 BIOLOGY

AUDIOTUTORIAL CENTER FOR BIOLOGICAL SCIENCES

To develop an audiotutorial learning and resource center for biological science students. The project sought to increase learning effectiveness through the use of self-paced subject modules with capability of self-testing. Courses in the biological sciences were converted from a traditional presentation to audiotutorial.
Budget Requested: $75,440 Budget Awarded: $13,390
Howard S. Brown

@POMONA BROWN PROFESSOR BIOLOGY LOWER-DIVISION
@SELF-PACED-LEARNING AUTOTUTORIAL TESTING AUDIO-VISUAL COURSE
@REVISION CSUC CSUC-1 1972 FUNDS-013390

#1148 ENGINEERING/MECH

MEASUREMENTS IN ENGINEERING BY SELF-PACED INSTRUCTION

To utilize latest techniques and equipment for use in the laboratory, the machine shop, and the industrial plant. The learning process was reinforced by a number of experiments in the actual

use of the demonstrated tools. Measurement techniques were divided into three areas – mechanical, electrical power, and electronic engineering – and modules for each of these areas were prepared, including a programmed text and videotape for self-paced instruction. The project was only partially completed.
Budget Requested: $27,372 Budget Awarded: $20,466
John Zickel

@SACRAMENTO ZICKEL PROFESSOR ENGINEERING/MECH ENGINEERING/ELEC
@LOWER/UPPER-DIV SELF-PACED-LEARNING PSI AUDIO-VISUAL TV-TAPED
@TV COURSE REVISION EQUIPMENT CSUC CSUC-1 1972 FUNDS-020466

#1150 INTERDISCIPLINARY

RESOURCE ITEMS IN INDIVIDUALIZED LEARNING

To introduce a flexible form of individualized instruction at the advanced undergraduate level. A course, Resource Units, was developed which assigned students to one faculty member for a full faculty teaching load and a 15-unit student course load each term. Resource Units were either departmental or interdisciplinary. Among the objectives of the proposal was to explore the uses and demands on faculty time made by such an approach to instruction.

The project allowed students to engage in individualized and personalized inquiry and involved them in close working relationships with faculty and other students.
Budget Requested: $87,906 Budget Awarded: $26,242
John Livingston

@SACRAMENTO LIVINGSTON PROFESSOR JOURNALISM HISTORY ENGLISH
@UPPER-DIVISION INTERDISCIPLINARY PROGRAM DEVELOPMENT CSUC
@CSUC-1 1973 FUNDS-026242

#1154 CHEMISTRY

SELF-PACED MODULES IN CHEMISTRY

To produce self-paced modules with laboratory instructions for carrying out experiments to eliminate tight scheduling of labs and to avoid problems of schedule conflicts. Experience with this approach could lead to an efficient means of evaluating lab skills of students wishing to receive credit by examination.

49 students participated, but the project was not fully implemented, in part due to curricular changes made by the Department of Chemistry.
Budget Requested: $9,965 Budget Awarded: $10,128
Kenneth Mantei

@SAN-BERNARDINO MANTEI ASSOC-PROFESSOR CHEMISTRY LOWER-DIVISION
@COURSE-LABORATORY SELF-PACED-LEARNING PSI CREDIT-BY-EVAL CSUC
@CSUC-1 1972 FUNDS-010128

#1156 LANGUAGE

SELF-PACED PROGRAM IN ELEMENTARY FRENCH

To develop a self-paced program in elementary French as an alternative to the traditional class. The modules developed enabled students to achieve mastery in 4 basic skills: speaking, understanding the spoken word, writing, and reading. Specific performance objectives were stated in each unit for the skills and knowledge that were required by the student.

Final evaluation of the project revealed that most students preferred a more structured approach. The PSI method appealed primarily to students who already knew some French but who were not prepared to move into more advanced work and to students who worked at a slower pace.

Budget Requested: $7,060 Budget Awarded: $6,241
Roy Madsen

@SAN-BERNARDINO MADSEN LECTURER LANGUAGE FRENCH
@LOWER/DIVISION SELF-PACED-LEARNING PSI COURSE REVISION
@MASTERY-LEARNING CSUC CSUC-1 1974 FUNDS-006241

#1168 INTERDISCIPLINARY

EVALUATION OF EXPERIENTIAL LEARNING: GENERAL STUDIES

To develop credit by evaluation procedures for assessing the academic credit to be awarded for learning in nonacademic, off-campus situations. Faculty members from 4 academic areas assessed petitions for credit based on travel-language-cultural experiences; various types of tutoring experiences; and work experience. The number of students who submitted petitions for academic credit by evaluation, the student-credit hours produced, and faculty time used in the evaluation provided the basis for a workload proposal for regular assignment of faculty time for this purpose. In 1972-73, 174 students took part in the program.

Budget Requested: $12,069 Budget Awarded: $17,753
Bernice Biggs

@CSUC-SF BIGGS PROFESSOR LANGUAGE HUMANITIES EDUCATION
@BUSINESS INTERDISCIPLINARY LOWER-DIVISION EXPERIENTIAL-LEARNING
@CREDIT-BY-EVAL OFF-CAMPUS-INSTRUCTION PROGRAM REVISION CSUC
@CSUC-1 1972 FUNDS-017753

#1165 MATHEMATICS

MASTERY LEARNING IN PRECALCULUS MATHEMATICS

To design self-paced modules for precalculus, primarily to benefit nonscience majors who are able to tailor the course to their own learning needs.

Student proctors grade exams and give immediate feedback. A computerized test bank of 2,000-3,000 questions makes it possible to generate a different, essentially equivalent, test for each student. Students go on to the next test only after mastery is achieved. 450 students were involved in the experimental phase of the project and CSUC faculty have access to the test bank through SOCRATES.

Budget Requested: $29,509 Budget Awarded: $31,691
Herb Gindler

@CSUC-SD GINDLER PROFESSOR MATHEMATICS CALCULUS LOWER-DIVISION
@SELF-PACED-LEARNING PEER-TEACHING DISSEMINATION COMPUTER
@TESTING MASTERY-LEARNING COURSE REVISION CSUC CSUC-1 1974
@FUNDS-031691

#1171 SPECIAL EDUCATION

ITV COMPETENCY PROGRAM IN SPECIAL EDUCATION

To develop study guides and videotaped observations of clinician-patient situations covering the generic core in special education. The objective was to free faculty for other teaching assignments, counseling of students on competency programming, evaluation and testing for the waiving of requirements, and supervision of practicum. In the first year of the project 129 students participated in the 9 unit-core courses.

Budget Requested: $82,420 Budget Awarded: $37,243
Katherine Butler

@SAN-JOSE BUTLER CHAIRPERSON SPECIAL-EDUCATION UPPER-DIVISION
@SELF-PACED-LEARNING STUDY-AIDS AUDIO-VISUAL TV TV-TAPED COURSE
@REVISION CSUC CSUC-1 1972 FUNDS-037243

#1173 ENGLISH

PSI APPROACH TO THE BASIC ENGLISH COMPOSITION COURSE

To develop a personalized instructional approach to English composition. Diagnostic tests determine the composition competencies of entering students. Mediated materials and activities are prescribed to help students overcome weaknesses and achieve competency. The PSI approach to English composition allows students with a strong background to complete course requirements with a minimum amount of help and time, freeing the instructor to work with students with serious problems.

An individualized study center manned almost constantly by instructors or teaching assistants allows flexible scheduling. The method was tested in 6 sections in spring 1974 and 4 sections in fall 1974.

Budget Requested: $45,583 Budget Awarded: $10,098
Marylou Lewandowski

@SAN-JOSE LEWANDOWSKI ASST-PROFESSOR WRITING LOWER-DIVISION
@TESTING PSI SELF-PACED-LEARNING AUDIO-VISUAL COURSE REVISION
@COURSE-LABORATORY CSUC CSUC-1 1973 FUNDS-010098

#1176 ENGINEERING

PROGRAM FOR TEACHING MASTERY OF ENGINEERING MECHANICS

To develop a comprehensive course in engineering mechanics which will improve the student's comprehension and self-reliance and increase student-faculty interaction. Materials developed for the course consisted of modules and examinations covering the material in

each module.
Budget Requested: Not Available Budget Awarded: $11,294
J. L. Meriam

@SAN-LUIS-OBISPO MERIAM PROFESSOR ENGINEERING LOWER-DIVISION
@SELF-PACED-LEARNING PSI AUDIO-VISUAL TV TV-TAPED
@ENGINEERING-MECH CSUC CSUC-1 1973 FUNDS-011294

#1177 HUMANITIES

BACHELOR OF ARTS IN LIBERAL STUDIES

To develop a model liberal studies program consisting of 4 upper division modules in English, Humanities, Natural Science, and Social Science. Each module is made up of 4 levels of 6 units. The student progresses from the first unit dealing with skills and intra-disciplinary relationships to the application of skills and cross-disciplinary relationships.
Budget Requested: $47,183 Budget Awarded: $25,903
Kay Wiley

@SONOMA WILEY COORDINATOR ENGLISH HUMANITIES SOCIAL-SCIENCES
@MATHEMATICS INTERDISCIPLINARY UPPER-DIVISION SEMINARS
@CREDIT-BY-EVAL PROGRAM REVISION AUDIO-VISUAL TV TV-TAPED
@CSUC CSUC-1 1972 FUNDS-025903

#1179 ENGLISH

ALTERNATIVE MAJOR IN ENGLISH

To develop a highly individualized, project-oriented major offering students greater freedom and responsibility in the study of English. Independent study, both on and off campus, largely replaces classroom instruction. Faculty members act chiefly as advisors and resource persons. Credit is granted on completion of each phase of a student's study plan with frequent reviews of progress. 68 students participated in 1973, and 70 chose the option in 1974. The program is currently offered as part of the regular curriculum.
Budget Requested: $17,500 Budget Awarded: $19,806
Richard Hendrickson

@SONOMA HENDRICKSON ASSOC-PROFESSOR ENGLISH LOWER-UPPER-DIV
@TUTORIAL AUTOTUTORIAL CREDIT-BY-EVAL EXPERIENTIAL-LEARNING
@PROGRAM REVISION CSUC CSUC-1 1972 FUNDS-019806

#1181 POLITICAL SCIENCE

INTRODUCTORY AMERICAN GOVERNMENT AUTOTUTORIAL

To design a series of autotutorial self-paced modules for American Government students. Work began in conjunction with a 1974 summer workshop funded by APSA. The Inter-University Consortium for Political Research and NSF was adapted for application in the CSUC system.

15 modules were developed on the Keller plan.
Budget Requested: $18,429 Budget Awarded: $19,801
Donald Dixon John Kramer

@SONOMA DIXON KRAMER ASST-PROFESSOR ASSOC-PROFESSOR
@POLITICAL-SCIENCE LOWER-DIVISION SELF-PACED-LEARNING PSI
@AUTOTUTORIAL COURSE REVISION EXTRAMURAL NSF CSUC CSUC-1
@1974 FUNDS-019801

#1191 INTERDISCIPLINARY

INTERDISCIPLINARY MODULARIZED PROGRAM FOR NONSCIENCE MAJORS

===================

To develop interdisciplinary modularized materials for nonscience majors. The project involved faculty from Bakersfield, Fullerton, and San Jose and an instructional designer and an evaluation specialist. Following a survey of student interests, independent study modules were developed dealing with current issues and comprehensive problems such as consumerism (Bakersfield), energy (San Jose), and water utilization (Fullerton).
Budget Requested: $91,405 Budget Awarded: $68,411
Jerrold Kemp

@SAN-JOSE KEMP COORDINATOR BIOLOGY PHYSICS INTERDISCIPLINARY
@LOWER-DIVISION MULTICAMPUS PROGRAM DEVELOPMENT
@SELF-PACED-LEARNING AUDIO-VISUAL EVAL-SPECIALIST SURVEY
@ENVIRONMENTAL-STUDIES ECONOMICS ENERGY-RESOURCES
@CONSUMER-SCIENCE CSUC CSUC-1 1974 FUNDS-068411

#1204 PSYCHOLOGY

UPDATE OF ITEM #1075: DEV INTRO SELF-PACED PSYCH MATERIALS

===================

To conduct workshops in the development and use of self-paced instructional materials to be followed by their implementation and modification. The project sought to develop new instructional packages as supplements to the 8 previously developed and tested by workshop co-directors and staff during a 1974 project and to evaluate the effectiveness of each instructional unit. 6 faculty representing 5 CSUC campuses attended the preliminary workshop. Participants and staff worked together to develop one basic instructional module as a prelude to development by each of another module in the faculty member's area of specialization. Those faculty then were available as local resource persons concerning these materials.
Budget Requested: $10,227 Budget Awarded: $7,392
David L. Cohen Mary J. Allen

@BAKERSFIELD COHEN ALLEN ASSOC-PROFESSOR ASST-PROFESSOR
@PSYCHOLOGY FACULTY-LEVEL FACULTY-DEVELOPMENT WORKSHOP
@DISSEMINATION COURSE REVISION PSI SELF-PACED-LEARNING CSUC
@CSUC-1 1975 FUNDS-007392

#1103 INDIVIDUALIZED INSTRUCTION

SELF-PACED LEARNING MODULES IN BASIC FINANCE

===================

To organize material in the basic finance course to allow students to proceed through the course at their own pace when attaining a prescribed minimal level of competence in the subject area. The subject matter of basic finance was divided into discrete modules which are presented in sequence in a PSI format. The student completes each module which includes multimedia demonstrations and programmed learning aids, before moving on to the next. Materials for 7 self-paced courses were developed in 1972, and the modules continue to be offered as alternatives in the regular curriculum. A faculty workshop to demonstrate the materials was held in 1974.

Budget Requested: $29,192 Budget Awarded: $23,495

Dennis O'Connor

@FULLERTON O'CONNOR PROFESSOR FINANCE LOWER-DIVISION
@SELF-PACED-LEARNING PSI MULTIMEDIA AUDIO-VISUAL STUDY-AIDS
@SELF-PACED-LEARNING COURSE DEMONSTRATIONS WORKSHOP CSUC
@CSUC-1 1972 FUNDS-023495

#1183 INDIVIDUALIZED INSTRUCTION

A PROGRAMMED COURSE IN PHONETICS: SPEECH

===================

To develop a self-paced programmed course in phonetics. The course consisted of units of subject matter arranged in a linear program format and audio and videotaped transcription practice material with study guide answer sheets. A final comprehensive examination was administered to both the experimental and control groups taught by traditional methods. The materials continue to be used in the regular curriculum.

Budget Requested: $11,246 Budget Awarded: $11,412

Susan Kellogg

@STANISLAUS KELLOGG LECTURER SPEECH/HEARING LOWER/UPPER-DIV
@AUDIO-VISUAL COMP-GROUPS TAPE-RECORDING AUDIO TV TV-TAPED
@PSI SELF-PACED-LEARNING COURSE REVISION TESTING STUDY-AIDS
@CSUC CSUC-1 1973 FUNDS-011412

#1139 INDIVIDUALIZED INSTRUCTION

SELF-PACED PROGRAMMED INSTRUCTION IN MUSICAL EAR TRAINING

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To provide the music student with the basic ear training skills necessary to a university music program. A set of 80 short tape-recorded lessons and an accompanying manual were produced, which allowed students to selectively work at their own pace. Each lesson explored a specific phase in the development of skills necessary for aural comprehension of basic musical structures.

The implementation of the project made possible the abolition of a costly and ineffective ear training laboratory and provided more useful alternatives for instructor and student.

Although only 47 of the 180 first-year music students who enrolled in the course finished the semester. Tonal ear training exceeded any previous attempts at ear training.

Budget Requested: $4,971 Budget Awarded: $5,136

Daniel A. Kessner

@NORTHRIDGE KESSNER ASST-PROFESSOR MUSIC LOWER-DIVISION
@SELF-PACED-LEARNING AUDIO TAPE-RECORDING COURSE REVISION CSUC
@CSUC-1 1973 FUNDS-005136

#1175 INDIVIDUALIZED INSTRUCTION

INDIVIDUALIZED LARGE-GROUP INSTRUCTION CHEMISTRY

To apply Braithwaite's multiple processing methodology to the instruction of freshman general inorganic chemistry. This is designed to individualize the instruction of large groups without the use of tutors, to develop technical competency and to spur intellectual growth. 400 students participated in the program in 1973-74.

Budget Requested: $36,384 Budget Awarded: $27,875
Grant D. Venerable

@SAN-LUIS-OBISPO VENERABLE ASST-PROFESSOR CHEMISTRY LOWER-DIVISION
@DISCOVERY-TECHNIQUE TEAM-TEACHING COURSE REVISION CSUC CSUC-1
@1973 FUNDS-027875

SIMULATION

#1091 INTERDISCIPLINARY

INTERDISCIPLINARY GAMES FOR SOCIAL SCIENCE GENERAL ED

To develop a series of games and simulations in history and sociology. The project as it developed focused on the process of game development, involving students in making interdisciplinary analyses. The games were played within a team-taught 4-unit course which earned social science general education credit.

Budget Requested: $22,172 Budget Awarded: $18,865
Marilyn Garber

@DOMINGUEZ-HILLS GARBER CHAIRPERSON INTERDISCIPLINARY HISTORY
@SOCIOLOGY LOWER-DIVISION SIMULATION-GAME TEAM-TEACHING
@PROBLEM-SOLVING DISSEMINATION PROGRAM DEVELOPMENT CSUC
@CSUC-1 1974 FUNDS-018865

#1124 INTERDISCIPLINARY

EXPERIENCING HISTORY

To explore the potentials of an experiential mode of course instruction in a general honors program. Instructional multimedia learning packages and supportive materials were developed. In 1975 faculty from several system campuses participated in a workshop involving videotaping and simulation games designed to introduce them to this interdisciplinary method of instruction.

Budget Requested: $57,606 Budget Awarded: $39,589
Gene Dinielli Thomas Lynch Patrick Griffin

@LONG-BEACH DINIELLI LYNCH GRIFFIN ASSOC-PROFESSOR LECTURER
@LECTURER INTERDISCIPLINARY UPPER-DIVISION SELF-PACED-LEARNING
@WORKSHOP PSI SEMINARS DISCOVERY-TECHNIQUE DISSEMINATION
@SIMULATION-GAME AUDIO-VISUAL MULTIMEDIA TV TV-TAPED CSUC
@CSUC-1 1974 FUNDS-039589

#1134 BUSINESS-ADMIN

DEVELOPMENT OF A CAPSTONE COURSE IN OFFICE SIMULATION

To develop a course in office simulation where students will be directly involved in experiences encountered by personnel employed in contemporary offices utilizing up-to-date hardware and information systems. Students in the office administration option will rotate through office jobs and assume supervisory and middle management positions including office administrator, records administrator, manager of administrative services, and senior office systems analyst. Simulation will require "hands-on" experience with office equipment.

Budget Requested: $19,610 Budget Awarded: $15,369
Ralph Spanswick

@CSUC-LA SPANSWICK CHAIRPERSON BUSINESS-ADMIN SIMULATION-GAME
@COURSE DEVELOPMENT CSUC CSUC-1 1976 FUNDS-015869

#1086 PUBLIC-ADMINISTRATION

PUBLIC ADMINISTRATION INTERNSHIP COMPOSITION LABORATORY

To improve the writing skills of public administration interns. A composition laboratory was created where the writing problems of the students were diagnosed and corrected. Emphasis in the program was placed on the practical needs of the students, making them aware of the minimum levels of compositional proficiency, methods for preparation of special reports, and methods for manuscript publication.

Budget Requested: $11,067 Budget Awarded: $10,662
Royce Delmatier

@CHICO DELMATIER CHAIRPERSON PUBLIC-ADMIN ENGLISH WRITING
@LOWER/UPPER-DIV TESTING INTERNSHIP TUTORIAL PEER-TEACHING
@COURSE-LABORATORY CSUC CSUC-1 1975 FUNDS-010662

#1095 INTERDISCIPLINARY

INNOVATIVE INSTRUCTION AND SERVICE FOR STOP-OUT STUDENTS

To develop and evaluate methods of providing continuing instruction and instructionally-related services to undergraduate students who interrupt their education. The project was based on the premise that the university had the necessary resources to assist these students in relating their noncampus experiences to their educational-vocational goals. 105 students participated actively in the project which helped them to maintain their affiliation with the campus. Some of these students earned academic credit for independent course work which was accredited when they reregistered. The campus did not adopt the project as part of its regular support services.

Budget Requested: $34,106 Budget Awarded: $11,729
Donald Albright Laurie Labbitt

@FRESNO ALBRIGHT LABBITT COUNSELOR INTERDISCIPLINARY
@LOWER/UPPER-DIV EXPERIENTIAL-LEARNING EVALUATION DEVELOPMENT
@PROGRAM CSUC CSUC-1 1974 FUNDS-011729

#1101 INTERDISCIPLINARY

ORIENTATION PROGRAM FOR STUDENTS MINORING IN GERONTOLOGY

To assist students in various undergraduate majors to plan an interdisciplinary minor in gerontology. A major focus of the project is the direct interaction of students with aging individuals to help them become familiar with their characteristics and environment. Elderly volunteers from the community act as "hosts" to students to help them to gain a better understanding of the theoretical aspects of aging taught in the classroom and to become aware of the needs of aging individuals and the various community services available to meet these needs.

Budget Requested: $11,591 Budget Awarded: $6,247
W. Donald Albright

@FRESNO ALBRIGHT COORDINATOR UPPER-DIVISION INTERDISCIPLINARY
@PROGRAM DEVELOPMENT DISSEMINATION COMMUNITY-STUDIES CSUC
@CSUC-1 1976 FUNDS-006247

#1106 INTERDISCIPLINARY

CENTER FOR INTERNSHIPS AND COOPERATIVE EDUCATION

To establish a center for community internships to integrate academic training with work experience in the community. The Center coordinates and evaluates the activities of students who participate in the program and awards college credit for work performed.

The 3 principal modes of instruction used are courses with a practicum, internships, and cooperative education projects.

1,238 students, representing most academic disciplines, were involved in the project.
Budget Requested: $67,867 Budget Awarded: $51,981
Bernard Hyink James Gallagher

@FULLERTON HYINK GALLAGHER PROFESSOR DIRECTOR UPPER-DIVISION
@INTERDISCIPLINARY INTERNSHIP EXPERIENTIAL-LEARNING DISSEMINATION
@PROGRAM DEVELOPMENT COMMUNITY-STUDIES CENTER CSUC CSUC-1
@1973 FUNDS-051981

#1184 PSYCHOLOGY

STUDENT TEACHING AND RESEARCHING ROLES IN PSYCHOLOGY

To allow junior-level psychology students to work for a year both as researchers and teachers and to receive academic credit for that work. Students who passed a competency test worked with faculty in "colleague groups" and shared responsibility for developing research objectives and methods in one of the subject areas of psychology. Each then designed and taught a course in his/her specialty area. 34 students participated in the program.
Budget Requested: $12,452 Budget Awarded: $13,004
Thomas Gentry Gary Novak Frank Wallace

@STANISLAUS GENTRY NOVAK WALLACE ASST-PROFESSOR ASST-PROFESSOR
@ASST-PROFESSOR PSYCHOLOGY UPPER-DIVISION DISCOVERY-TECHNIQUE
@PEER-TEACHING COURSE DEVELOPMENT UNDERGRAD-RESEARCH CSUC
@CSUC-1 1974 FUNDS-013004

#1208 PUBLIC ADMIN

UPDATE OF ITEM #1086: PUBLIC ADMIN INTERNSHIP LAB

To expand a composition laboratory developed in 1975-76 for public administration interns to include pre-law students and, on a referral basis, any political science major. Peer tutors from the English department will assist in the laboratory. Evaluation will be divided into four parts: evaluation of student efforts by public administration faculty and consultants; subject evaluation of their own progress and the pilot project itself; evaluation of student

writing by the internship supervisor; and a follow-up evaluation conducted by faculty one year after the student completes his work in the internship composition laboratory.
Budget Requested: $11,819 Budget Awarded: $4,157
Royce D. Delmatier

@CHICO DELMATIER CHAIRPERSON POLITICAL-SCIENCE PUBLIC-ADMIN
@LAW WRITING LOWER/UPPER-DIV INTERNSHIP TUTORIAL PEER-TEACHING
@STUDENT-OPINION STUDENT-PERFORM DISSEMINATION COURSE
@DEVELOPMENT COURSE-LABORATORY CSUC CSUC-1 1976 FUNDS-004157

#1244 CONSUMER-SCIENCE

VENDOR-CONSUMER RELATIONSHIPS: COURSE

To develop (1) a more 'applied' track for sociology undergraduates, (2) graduate consumer science and consumer research program in campus, (3) sociologically oriented course dealing with the structure of vendor-consumer relationships and the bargaining interaction between vendors and consumers.

Materials will be drawn by analogy from already established areas of sociology (e.g., the sociology of occupations), from case materials on consumer issues accumulated by the instructor over a period of many years, and from literature on consumer issues within and without sociological sources.
Budget Requested: $3,685 Budget Awarded: $3,404
Julius A. Roth

@DAVIS ROTH ASST-PROFESSOR ECONOMICS CONSUMER-SCIENCE
@POLITICAL-SCIENCE SOCIAL-SCIENCES WOMENS-STUDIES COURSE
@DEVELOPMENT GRADUATE-LEVEL LOWER/UPPER-DIV 1976 REG-MIL UC
@FUNDS-003404 EXPERIENTIAL-LEARNING FIELD-STUDIES STUDY-AIDS
@VISUAL SLIDES STIPENDS SUMMER-PLANNING STUDENT-OPINION

#1125 INTERDISCIPLINARY

FOLKLIFE CENTER

To establish a center to bring together the members of the University with the members of the community through the common base of folklore, folk traditions, folk art, oral history, and related areas. A facility in the downtown Long Beach area was established to serve two primary functions: to house an archive of folkloric materials and to serve as a center for collecting folklore. Seminars and minicourses utilizing varying time blocks were presented on campus and at the Center to train students of folklore in field research in techniques of collecting and interviewing.

The center, which was refunded in 1976, will be evaluated by a board of overseers, composed of members of the faculty, administration, and community.
Budget Requested: $19,992 Budget Awarded: $15,123
J. C. Jernigan Benjamin Levine

@LONG-BEACH JERNIGAN LEVINE CHAIRPERSON LECTURER LITERATURE
@HISTORY ALL-LEVELS INTERDISCIPLINARY CENTER AUDIO-VISUAL TV

@TV-TAPED SEMINARS MINICOURSE OFF-CAMPUS-INSTRUCTION
@DISSEMINATION PROGRAM DEVELOPMENT UNDERGRAD-RESEARCH
@INFO-RETRIEVAL PEER-EVAL VISUAL ARTIFACTS COMMUNITY-STUDIES
@CSUC CSUC-1 1975 FUNDS-01523

#1141 ANTHROPOLOGY

URBAN ANTHROPOLOGY INTERNSHIP PROGRAM

To provide anthropology majors with systematic supervised experience in varying intern placement situations in the greater Los Angeles area. Project objectives include development of communication between the campus and the greater Los Angeles area agencies and institutions in order to allow students to apply academic theories to actual field situations of a varied population and the creative use of audiovisual equipment as a learning and evaluation tool.
Budget Requested: $20,000 Budget Awarded: $15,637
Liucija Baskauskas

@NORTHRIDGE BASKAUSKAS ASST-PROFESSOR ANTHROPOLOGY INTERNSHIP
@COURSE DEVELOPMENT AUDIO-VISUAL OFF-CAMPUS-INSTRUCTION CSUC
@CSUC-1 1976 FUNDS-015637

#1182 INTERDISCIPLINARY

INTERDISCIPLINARY PROGRAM IN HISTORIC PRESERVATION

To design an interdisciplinary course in the social history of California architecture, focusing on historic preservation methods. The project involved faculty from history, economics, geography, law, architecture and urban planning. Students participated (with an advisory committee) in the course development and in planning a systemwide conference to expand existing cooperative efforts between the campuses and professional preservationists in the field and to explore career opportunities in the college service area.
Budget Requested: $18,446 Budget Awarded: $15,377
Peter Mellini Edgar Morse

@SONOMA MELLINI MORSE ASSOC-PROFESSOR HISTORY ECONOMICS
@EARTH-SCIENCES GEOGRAPHY LAW ARCHITECTURE URBAN-STUDIES
@INTERDISCIPLINARY LOWER/UPPER-DIV CONFERENCE COURSE
@DEVELOPMENT CSUC CSUC-1 1975 FUNDS-015377

#1199 POLITICAL SCIENCE

SACRAMENTO SEMESTER PROGRAM

To provide internship opportunities for students in political science. 25 students, drawn from the 19 state university and college campuses, were eligible for 15 semester units of academic credit for participating in the program. They spent one semester in Sacramento, studying and working directly in California State government, receiving 6 units of credit for working 25 hours a week in the state capitol. Through the intra-system transfer the students were able to transfer all units earned in the program to their home campuses.

A set of informational materials was prepared and sent to students at the outset of the program. One week was spent in intensive student orientation sessions which were attended by California politicians who discussed current California government and politics and the nature of internship work in the state capitol. Students were placed in offices which were considered as most nearly matching their interests and qualifications.

Budget Requested: $24,997 Budget Awarded: $26,005
Gary L. Wilhelm Paul R. Murray

@SACRAMENTO WILHELM MURRAY ASSOC-PROFESSOR PROFESSOR
@POLITICAL-SCIENCE UPPER-DIVISION INTERNSHIP MULTICAMPUS CSUC
@CSUC-1 1975 FUNDS-026005

#1100 MATHEMATICS

REDUCING "MATH ANXIETY" IN WOMEN STUDENTS

To combine the traditional approach of teaching basic mathematics skills with a new approach through peer support and reinforcement for women students. The program sought to teach students how to be assertive and thus overcome their anxieties about mathematics. Women were encouraged to examine career options open to them in traditionally male fields which have mathematics as a base.

10 women peer instructors each tutored 2 students for 2 hours every week in addition to the regular class period. A series of pretests were administered to students to determine 1) math skills, 2) math anxiety, 3) personality inventory and perception. Results of posttests showed an increase of math skills and a lowering of math anxiety. 53 students participated in the program.
Budget Requested: $19,373 Budget Awarded: $10,705
Lillian Faderman Kathryn H. Brooks

@FRESNO FADERMAN BROOKS COORDINATOR MATHEMATICS
@WOMENS-STUDIES LOWER-DIVISION PEER-TEACHING TUTORIAL
@PRE-POST-TEST COURSE REVISION CSUC CSUC-1 1975 FUNDS-010705

#1169 POLITICAL SCIENCE

SMALL GROUP PEER INSTRUCTION

To evaluate a 4-year experiment in the organization of large classes into small study groups. Students participated systematically and actively in their mutual instruction and in grading the performance of individual and collective tasks set forth in specially formulated syllabi. Video, audio, and print materials were prepared for training faculty from a variety of disciplines in peer instruction procedures.

3 types of classes were compared in a controlled experiment: small group peer instruction classes, traditional small lecture-discussion groups, and traditional large lecture classes. 946 students participated in the program in 1972-73.
Budget Requested: $9,012 Budget Awarded: $9,386
Ralph M. Goldman

@CSUC-SF GOLDMAN CHAIRPERSON POLITICAL-SCIENCE LOWER/UPPER-DIV
@PEER-TEACHING FACULTY-DEVELOPMENT DISCUSSION-GROUPS COURSE
@AUDIO-VISUAL VISUAL AUDIO PRINT COMP-GROUPS REVISION CSUC
@CSUC-1 1972 FUNDS-009386

#1196 ENGLISH

RESOURCE DEVELOPMENT FOR TEACHING BASIC WRITING SKILLS

To develop an individualized, competency-based methodology for teaching basic writing skills. Each participating campus was assigned primary responsibility for the research and development of one of the following components during Fall 1975; 1) Northridge – screening procedures; 2) San Jose – diagnostic instruments; 3) San Diego – core instructional materials; 4) Sacramento – materials for bilingual and bidialectical students; 5) San Francisco – materials for tutor training; and 6) Dominguez Hills – adjunct strategies for teaching basic writing. In

spring 1976, the components were integrated into an individualized system of instruction which involved an initial diagnosis of student writing abilities and then contractual assignment of a series of modules containing material considered to be prerequisite to traditional freshman composition courses. Students were posttested as each module was completed to determine if they had learned the skills taught in that module. Problems were encountered in the level of difficulty in the materials covered in the modules.
Budget Requested: $69,000 Budget Awarded: $61,895
John Linthicum Guy Smith

@MULTICAMPUS LINTHICUM SMITH LECTURER ENGLISH WRITING
@LOWER-DIVISION SELF-PACED-LEARNING PSI PEER-TEACHING TESTING
@COURSE REVISION CSUC CSUC-1 1975 FUNDS-061895

#1198 ENGLISH

WRITING ADJUNCT TRANSFER

To implement a program for teaching composition as part of regular subject courses. The program uses as its basis student papers written for courses in disciplines other than English. Through a combination of individual tutorial sessions, class meetings, and workshops, students learn the general principles of composition as they revise and edit their draft papers. 6 campuses are involved in the program: Dominguez Hills, Fullerton, Long Beach, San Diego, and San Luis Obispo. Other applications of the program include 1-unit minicourses in basic composition and assistance for graduates and for senior research projects as well as composition instruction for students in a variety of disciplines. An aspect common to all campus programs is the training and use of peer tutors proficient in editorial skills and the teaching of writing.
Budget Requested: $60,007 Budget Awarded: $59,157
Marilyn Sutton Lois Feuer

@DOMINGUEZ-HILLS SUTTON FEUER ASST-PROFESSOR ASST-PROFESSOR
@ENGLISH WRITING PSYCHOLOGY INTERDISCIPLINARY ALL-LEVELS
@PEER-TEACHING WORKSHOP TUTORIAL MINICOURSE MULTICAMPUS
@COURSE DEVELOPMENT CSUC CSUC-1 1975 FUNDS-059157

MINICOURSES

#1099 ENGLISH

AN INTEGRATED APPROACH TO COLLEGE LEVEL COMPOSITION

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To develop a course for both remedial and non-remedial composition instruction. Diagnostic tests are administered to entering freshmen and juniors providing separate scores on 5 composition skills. Students receiving low scores in any of these skills take one or more minicourses designed to overcome their areas of weakness. The emphasis of the project is the development of an integrated program of instruction to meet students' specific needs.
Budget Requested: $19,989 Budget Awarded: $15,929
Fred Brengelman James Frey

@FRESNO BRENGELMAN FREY PROFESSOR ASSOC-PROFESSOR ENGLISH
@WRITING LANGUAGE LINGUISTICS LOWER-DIVISION MINICOURSE
@STUDY-AIDS TESTING COURSE DEVELOPMENT REMEDIAL/REFRESHER
@CSUC CSUC-1 1975 FUNDS-015929

#1105 INTERDISCIPLINARY

ALTERNATIVE APPROACHES TO GENERAL EDUCATION

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To continue development and coordination of the minicourse program to fulfill general education requirements. The courses had a common topical focus and were offered in time blocks with dovetailed scheduling. These blocks were then combined to form interdisciplinary, inter-departmental courses which carried 3 credit units and were team-taught. Topics studied are offered as alternatives to introductory courses to various disciplines. 800 students were involved in the program in 1973-74. Minicourses are now a regular part of the Fullerton curriculum.
Budget Requested: $67,136 Budget Awarded: $26,489
Dissemination: Monograph available from New Program Development and Evaluation, Office of the Chancellor, CSUC. 44 pages
Julian Foster

@FULLERTON FOSTER PROFESSOR INTERDISCIPLINARY LOWER-DIVISION
@MINICOURSE SEMINARS DISSEMINATION PROGRAM REVISION
@TEAM-TEACHING CSUC CSUC-1 1973 FUNDS-026489

#1113 INTERDISCIPLINARY

HUMAN DEVELOPMENT PROGRAM

====================

To develop several approaches to fulfill the objectives of an interdisciplinary, undergraduate Human Development program. These approaches included the development of modularized minicourses with built-in time flexibility, multiple alternatives in delivery and evaluation systems, and comprehensive exams.

Skills training was provided for students, faculty, and members of the community to further the development of new approaches for dealing with individual and cultural differences. The program was designed in 1973-74, and the modules developed are available for use by students and faculty. A learning center was also established which is open day and night.
Budget Requested: $44,640 Budget Awarded: $43,149
Ivan Kovacs

@HAYWARD KOVACS CHAIRPERSON LOWER/UPPER-DIV INTERDISCIPLINARY
@SELF-PACED-LEARNING PSI SEMINARS CENTER TESTING MINICOURSE
@DISSEMINATION PROGRAM REVISION CSUC CSUC-1 1973 FUNDS-043149

#1104 MINICOURSE

MULTI-MEDIA SELF-PACED MINICOURSES IN THE NATURAL SCIENCES

====================

To create a student learning center laboratory with booths equipped with appropriate hardware and to develop a large number of minicourses covering the subject matter of 3 ongoing traditional courses in principles of zoology; crisis biology and biology for nonscience students. The instructor helped students to select minicourses which best suited individual interests and career objectives.

Competence levels of students in the self-paced courses were compared with those enrolled in traditional courses. Results showed that students using the autotutorial method learned and retained more and earned higher grades. 447 students enrolled in the minicourses in 1972-73. The program continues to be offered as part of the regular curriculum and has developed additional materials and learning modules.

Budget Requested: $28,239 Budget Awarded: $29,011
Kenneth McWilliams

@FULLERTON MCWILLIAMS ASSOC-PROFESSOR BIOLOGY ZOOLOGY
@LOWER-DIVISION AUTOTUTORIAL AUDIO-VISUAL SLIDES FILMS CENTER
@DEPT-LABORATORY SELF-PACED-LEARNING TAPE-RECORDING AUDIO
@VISUAL MINICOURSE COURSE REVISION PSI EQUIPMENT COMP-GROUPS
@CSUC CSUC-1 1972 FUNDS-029011

OTHER

#1149 COMMUNICATIONS

DESIGNING AN INSTRUCTIONAL MESSAGE

To develop data for different student populations to make it possible to adjust the degree of sophistication of the material presented in a course to the ability of the group to be served. When the results of this study are applied, it is hoped that the level of complexity of the material represented will be congruent with the students' abilities to absorb it most effectively. It is expected that drop-out rates should be reduced significantly as those who have been bored by overly simplistic presentations and those who have been overwhelmed by too complex materials will find their abilities more closely approximated to course demands.

Budget Requested: $13,148 Budget Awarded: $16,066

Dissemination: Monograph available from New Program Development and Evaluation, Office of the Chancellor; CSUC. 75 pages.

Patrick Marsh

@SACRAMENTO MARSH PROFESSOR COMMUNICATIONS ALL-LEVELS
@GRADING-EXPERIMENT TESTING DISCOVERY-TECHNIQUE CSUC CSUC-1
@1972 FUNDS-016066

#1170 INTERDISCIPLINARY

PROJECT FOR PLANNED CHANGE: BEHAVIORAL AND SOCIAL SCIENCES

To offer a variety of alternatives for learning and faculty utilization by curricular innovation. Under an initial grant from the Carnegie Corporation, 10 academic disciplines from the School of Behavioral and Social Sciences were involved in a variety of new approaches to teaching and learning, including development of diagnostic and posttests and refinement of self-pacing material. The project has developed an alternative psychology major; a new curriculum in international relations and political science (MAP program); peer instruction procedures in political sciences; self-paced courses in economics and history; and credit by examination in sociology. 1,081 students participated in the 1973-74 project.

Budget Requested: $90,920 Budget Awarded: $52,626

Devere E. Pentony Robert Picker

@CSUC-SF PENTONY PICKER DEAN ASSOC-DEAN POLITICAL-SCIENCE
@INTERNATL-RELAT SOCIAL-SCIENCES SOCIOLOGY ECONOMICS HISTORY
@PSYCHOLOGY INTERDISCIPLINARY LOWER/UPPER-DIV SELF-PACED-LEARNING
@PSI CREDIT-BY-EVAL PEER-TEACHING AUDIO-VISUAL AUTOTUTORIAL
@PRE-POST-TEST COMPUTER TESTING PROGRAM REVISION CSUC CSUC-1
@1973 FUNDS-052626

#1172 INTERDISCIPLINARY

INSTRUCTIONAL DEVELOPMENT SUPPORT PROJECT

To assess the value of a college-wide instructional development service to coordinate and guide faculty projects in a systematic manner. A qualifed instructional designer worked with each of several faculty project directors to develop statements of specific instructional objectives; select appropriate methods, resources, and activities for teaching and learning to achieve these objectives; develop appropriate measurement instruments and other suitable means of evaluating the extent to which these objectives are achieved and implement full-course application.

The emphasis in this project was to move from traditional modes of instruction to other more innovative approaches that would provide students with greater opportunities for individualized learning and increased self-reliance. 116 students participated in the four courses encompassed within the project – art, mathematics for elementary school teachers, electrical engineering, and speech.

Budget Requested: $243,440 Budget Awarded: $61,974
Ronald J. McBeath

@SAN-JOSE MCBEATH DIRECTOR ART ENGINEERING SPEECH MATHEMATICS
@INTERDISCIPLINARY LOWER/UPPER-DIV FACULTY-LEVEL
@SELF-PACED-LEARNING PSI AUTOTUTORIAL AUDIO-VISUAL PROGRAM
@REVISION ENGINEERING-ELEC TEACHER-EDUCATION CSUC CSUC-1 1972
@FUNDS-061974

AUDIOVISUAL

#1079 ART

ITV ART

====================

To provide learning modules for statewide use in the instruction of art appreciation. The project involved the production of approximately 16, 30-minute ITV lessons for lab sessions in order to insure maximum use of valuable instructors through cooperation between the state university and community college districts.

Evaluation showed that the self-paced modules were cost effective in that they increased learning and effective utilization of faculty and reduced student time spent in classrooms and laboratories. The materials produced are in use at Chico and the surrounding community colleges.

Budget Requested: $30,798 Budget Awarded: $49,933
Royd Weintraub

@CHICO WEINTRAUB DIRECTOR ART AUDIO-VISUAL LOWER-DIVISION TV
@TV-TAPED CLOSED-CIRCUIT AUTOTUTORIAL COURSE-LABORATORY
@DISSEMINATION COURSE REVISION ART-HISTORY CSUC CSUC-1 1972
@FUNDS-049933

#1082 MATHEMATICS

INNOVATIVE USES OF MEDIA IN MATHEMATICS

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To develop and pilot-test modular, single-concept instructional packages for intermediate algebra, calculus, and other mathematical subjects. The packages developed by three mathematics faculty consisted of slides, synchronized tape recordings, and workbooks suitable for either classroom use on a PSI mode or for independent study.

Budget Requested: $3,540 Budget Awarded: $6,490
Thomas McCready

@CHICO MCCREADY PROFESSOR MATHEMATICS CALCULUS LOWER-DIVISION
@SELF-PACED-LEARNING PSI AUTOTUTORIAL AUDIO-VISUAL VISUAL SLIDES
@AUDIO TAPE-RECORDING DEPT-LABORATORY DISSEMINATION COURSE
@REVISION CSUC CSUC-1 1972 FUNDS-006490

#1088 PSYCHOLOGY

ITV FOR LARGE CLASSES IN TESTS AND MEASUREMENTS

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To demonstrate the feasibility of teaching a standardized, repeatable course for large-size classes in tests and measurements, providing effective instruction with the use of limited resources through ITV; to prepare a teacher's guide with specific direction for course instruction; and to estimate the cost of teaching such a course after the initial development.

In a comparison of different teaching strategies, the television mode proved the least successful in terms of student interest and persistence. 176 students participated in the project.

Budget Requested: $4,600 Budget Awarded: $4,635
Quentin Stodola

@DOMINGUEZ-HILLS STODOLA ASSOC-DEAN PSYCHOLOGY LOWER-DIVISION
@AUDIO-VISUAL TV DISSEMINATION COURSE REVISION STATISTICS
@TV-TAPED CSUC CSUC-1 1972 FUNDS-004635

#1094 SOCIAL SCIENCES

BIBLIOGRAPHIC AIDS FOR SOCIAL SCIENCES

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To compare the lecture-discussion method of teaching social science bibliographic aids and scholarly references with other methods, including 1) audiovisual presentation of information without follow-up discussion and questions and 2) audiovisual presentation of information with follow-up discussions and questions.

The project revealed that the audiovisual instruction was a more efficient method of instruction than either the lecture or a combination of audiovisual instruction and lecture-discussion. 93 students were involved in the initial program.
Budget Requested: $4,714 Budget Awarded: $4,889
Robert Comegys

@FRESNO COMEGYS PROFESSOR SOCIAL-SCIENCES HISTORY EDUCATION
@LOWER-DIVISION AUDIO-VISUAL VISUAL SLIDES DISCUSSION-GROUPS
@DISSEMINATION COURSE REVISION STUDY-AIDS CSUC CSUC-1 1973
@FUNDS-004889

#1105 INTERDISCIPLINARY

ALTERNATIVE APPROACHES TO GENERAL EDUCATION

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To continue development and coordination of the minicourse program to fulfill general education requirements. The courses had a common topical focus and were offered in time blocks with dovetailed scheduling. These blocks were then combined to form interdisciplinary, inter-departmental courses which carried 3 credit units and were team-taught. Topics studied are offered as alternatives to introductory courses to various disciplines. 800 students were involved in the program in 1973-74. Mini-courses are now a regular part of the Fullerton curriculum.
Budget Requested: $67,136 Budget Awarded: $26,489
Dissemination: Monograph available from New Program Development & Evaluation, Office of the Chancellor, CSUC. 44 pages.
Julian Foster

@FULLERTON FOSTER PROFESSOR INTERDISCIPLINARY LOWER-DIVISION
@MINICOURSE SEMINARS DISSEMINATION PROGRAM REVISION
@TEAM-TEACHING CSUC CSUC-1 1973 FUNDS-026489

#1114 DRAMATIC-ART

DEVELOPMENT OF SKILLS IN ACTING AND PANTOMIME COURSES

To increase the enrollment in these classes from 25 to 50 students per section through the use of peer and video instruction. Peer instructors served as assistant coaches in videotaped classes and helped small groups achieve proficiency in acting and pantomime skills. Videotape was found to be an effective teaching aid in increasing the rate at which students were able to build their skills.

The 44 students involved in the classes showed an enthusiastic response to the immediate feedback that the videotapes provided but student reaction to peer-instructors was not so favorable.

Budget Requested: $13,717 Budget Awarded: $14,009
James Costy

@HAYWARD COSTY COORDINATOR DRAMATIC-ART LOWER-DIVISION
@PEER-INSTRUCTION AUDIO-VISUAL TV VISUAL AUDIO DISSEMINATION
@COURSE REVISION PEER-TEACHING TV-TAPED CSUC CSUC-1 1974
@FUNDS-014009

#1120 INTERDISCIPLINARY

WEEKEND COLLEGE

To utilize the college facilities in a weekend program of introductory interdisciplinary multimedia classes for general education. 2 lower division core courses were developed as experimental models in interdisciplinary team-taught classes, each taught by 6 faculty.

Initially 75% of the participants were drawn from regular student enrollment but it was hoped that eventually the weekend college would enroll students who were unable to attend regular sessions. The project was too costly to continue after the initial year of funding. A modified weekend college is now offered on the Long Beach campus with the assistance of the Learning Resources Center.

Budget Requested: $141,116 Budget Awarded: $184,022
August Coppola

@LONG-BEACH COPPOLA PROFESSOR MEDIA COMMUNICATIONS
@INTERDISCIPLINARY AUDIO-VISUAL TEAM-TEACHING DISCOVERY-TECHNIQUE
@LOWER-DIVISION MULTIMEDIA PROGRAM DEVELOPMENT CENTER
@COMMUNITY-STUDIES CSUC CSUC-1 1972 FUNDS-184022

#1131 BUSINESS-ADMIN

VIDEOTAPES ON THE CHANGING ROLE OF BUSINESS

To open communication between economic and educational institutions. The project sought to help business students who are unaware of the social views and policies of big business to become oriented to business practices and thinking. A pilot series of 10 videotapes were produced to provide students with the opportunity to be exposed to the practitioners' world.

Budget Requested: $9,058 Budget Awarded: $8,598
Dissemination: Tapes developed in the program, which is an extension of a 1974-75 mini-grant program, will be distributed and marketed to universities and colleges outside the CSUC campuses. They are available free of charge to all CSUC campuses.
John F. Steiner

@CSUC-LA STEINER ASST-PROFESSOR BUSINESS-ADMIN ECONOMICS
@LOWER/UPPER-DIV AUDIO-VISUAL TV TV-TAPED DISCUSSION-GROUPS
@DISSEMINATION COURSE DEVELOPMENT CSUC CSUC-1 1975
@FUNDS-008598

#1140 SPANISH

SPANISH LANGUAGE TRAINING EXPERIMENT

To train students (without previous language experience in the Spanish language) preparing to be K-12 teachers by means of an intensive cassette-based language training program during a summer session. Tapes made available by an independent School of Language covered material that would have taken a semester to cover in a traditional language class. The program consisted of 3 phases: listening to tapes for solid knowledge of the language structure; live conversation and reading sessions; and listening to 16, 3-hour sessions of original tapes. A written evaluation of the commercial program by a Spanish department faculty member indicated that the volunteers did not develop basic conversation skills during the tape sessions. The lack of written materials was found to be a liability. The program was not refunded.
Budget Requested: $250 Budget Awarded: $250
John Portera

@NORTHRIDGE PORTERA ASSOC-PROFESSOR SPANISH LOWER-DIVISION
@AUDIO TAPE-RECORDING EVAL-SPECIALIST TESTING COURSE REVISION
@CSUC CSUC-1 1975 FUNDS-000250

#1143 INTERDISCIPLINARY

INSTITUTE FOR MULTIDISCIPLINARY TECHNIQUES

To design a Bachelor of Science curriculum in multidisciplinary techniques capable of graduating a proportion of entering students in 3 years. Students were encouraged to challenge some of the general education requirements via CLEP examinations and were trained in the autotutorial byway system. 20 faculty fellows were appointed to the institute which emphasized self-paced learning on autotutorial equipment combined with discussion sessions. A series of courses were designed to guide students in the preparation of a detailed portfolio in the area each elected for future employment.
Budget Requested: $101,229 Budget Awarded: $68,112
Lenard Troncale

@POMONA TRONCALE ASST-PROFESSOR INTERDISCIPLINARY LOWER/UPPER-DIV
@AUDIO-VISUAL CREDIT-BY-EVAL AUTOTUTORIAL SELF-PACED-LEARNING
@AUDIO VISUAL PROGRAM DEVELOPMENT CSUC CSUC-1 1972
@FUNDS-068112

#1159 INTERDISCIPLINARY

INTEGRATION OF ADVANCED CHEMISTRY LABORATORY

====================

To create a single laboratory for upper division chemistry by integrating projects in the laboratory. This interdisciplinary project was designed to reduce the total number of laboratory hours required for a bachelor's degree; reduce the amount of instructional supervision required; and provide a more realistic approach to problem-solving in scientific work.

The project integrated instrumental analyses and physical chemistry laboratories centering on multiple objective laboratory projects. 160 students participated in the program. The laboratory is currently in use and has resulted in a more efficient use of student and faculty time.

Budget Requested: $34,996 Budget Awarded: $35,063
Walter Jones

@CSUC-SD JONES PROFESSOR CHEMISTRY UPPER-DIVISION INTERDISCIPLINARY
@AUDIO-VISUAL CREDIT-BY-EVAL DEPT-LABORATORY PROBLEM-SOLVING
@CSUC CSUC-1 1972 FUNDS-035063

#1161 COMMUNICATIONS

COMMUNITY ACCESS EDUCATION: AN OPEN UNIVERSITY

====================

To determine the efficacy of the open university method of instruction which provides a learning sequence to students in widely dispersed locations and accommodates disparate work schedules and lifestyles. The methodology, based on the "open university" of Great Britain, was to be tested from pedagogical and economic viewpoints. The project was planned to utilize mediated instruction in mathematics encompassing a mix of correspondence, open-circuit television, radio, cable communication, telephone feedback, and tutorials. The project was cancelled because of high costs and limited student interest. A residual effect remains in an active educational TV consortium in the south coast area.

Budget Requested: $35,932 Budget Awarded: $57,339
Kenneth L. Jones

@CSUC-SD JONES PROFESSOR COMMUNICATIONS MEDIA MATHEMATICS
@LOWER-DIVISION AUTOTUTORIAL TUTORIAL AUDIO-VISUAL COURSE
@REVISION DISSEMINATION TV BROADCAST AUDIO AUDIO-BROADCAST
@CSUC CSUC-1 1972 FUNDS-057339

#1205 COMPUTER-SCIENCES

INTERUNIVERSITY DUPLEX VIDEO LINK

====================

To install a two-way video link between CSU Chico, UC Davis and Lawrence Livermore Laboratory. This project permitted students to fully participate in courses in computer sciences and allied health areas offered by faculty in other locations. Via video the faculty member was able to answer student questions, clarify points of concern, and modify his/her presentations according to class needs.

By implementing this video link the size of effective class enrollments was increased; duplication of areas of expertise in graduate level computer science was no longer necessary; and the program provided a model for inter-campus and inter-university sharing of faculty resources.

The CSUC innovative funds were matched by UC Davis. 30 faculty from the CSUC system participated. The system became operational in 1974 with courses offered in 1975.
Budget Requested: $52,150 Budget Awarded: $40,000
Robert Maurer William Lane

@CHICO MAURER LANE DEAN CHAIRPERSON COMPUTER-SCIENCES HEALTH
@GRADUATE-LEVEL AUDIO-VISUAL TV TV-LIVE DISSEMINATION
@OFF-CAMPUS-INSTRUCTION PROGRAM DEVELOPMENT CSUC CSUC-1 1973
@FUNDS-040000

COMPUTER

#1076 POLITICAL SCIENCE

WORKSHOP IN COMPUTER-ASSISTED TEACHING: POLITICAL SCIENCE

==================

To introduce computer-assisted learning exercises into introductory American government courses. Workshops for faculty from the political science departments in the CSUC system were held, and SETUPS, a series of modules, were introduced to workshop participants providing them with hands-on experience with the teaching units. The workshops were attended by 25 faculty from Bakersfield, Chico, Fresno, Fullerton, Humboldt, Long Beach, Los Angeles, Sacramento, San Francisco, and San Luis Obispo.

Budget Requested: $4,144 Budget Awarded: $4,000
Ray Geigle

@BAKERSFIELD GEIGLE ASSOC-PROFESSOR POLITICAL-SCIENCE WORKSHOP
@DISSEMINATION COMPUTER AUTOTUTORIAL PROGRAM REVISION
@FACULTY-DEVELOPMENT FACULTY-LEVEL INFO-RETRIEVAL CSUC CSUC-1
@1974 FUNDS-004000

#1087 INTERDISCIPLINARY

COMPUTERIZED DATA TEST ITEMS IN SCIENCE

==================

To provide a test item bank to instructors in lower division science courses. Course content was defined in detail and questions were matched to content. The test bank currently provides objective questions for classroom tests and enables faculty to make use of frequent drills in order to diagnose student learning needs. It is particularly useful for self-paced modular instruction and for testing for advanced placement and course credit by evaluation. Test items are classified according to subject matter, making the program available for general education requirements. In 1972-73 3 banks were developed, some of which are now in use at Fullerton, Long Beach, and Dominguez Hills.

Budget Requested: $51,463 Budget Awarded: $36,028
Dissemination: Test bank available to CSUC faculty on all campuses through the SOCRATES system.
Sameul S. Wiley

@DOMINGUEZ-HILLS WILEY ASSOC-PROFESSOR PHYSICS CHEMISTRY
@LOWER-DIVISION INTERDISCIPLINARY SELF-PACED-LEARNING
@CREDIT-BY-EVAL COMPUTER TESTING DISSEMINATION STUDY-AIDS
@COURSE DEVELOPMENT CSUC CSUC-1 1972 FUNDS-036028

#1142 ENGLISH

SELF-PACED COMPUTERIZED LEARNING AIDS – FRESHMAN ENGLISH

==================

To increase the quality and efficiency of instruction in Freshman English composition by providing programmed computer lessons to reinforce classroom teaching. Each lesson will be a complete unit of instruction containing 10 sets of questions. The lessons provide self-paced instruction not only for students in Freshman composition, but for all users of the English Writing Lab.

Pre- and postdiagnostic tests will be administered to a class using the computer lessons and to a traditional class.
Budget Requested: $13,824 Budget Awarded: $12,673
Annamarie Peterson

@NORTHRIDGE PETERSON ASSOC-PROFESSOR ENGLISH WRITING
@LOWER-DIVISION COMPUTER AUTOTUTORIAL PRE-POST-TEST
@DEPT-LABORATORY COURSE REVISION SELF-PACED-LEARNING PSI
@COMP-GROUPS CSUC CSUC-1 1976 FUNDS-012673

#1146 INTERDISCIPLINARY

COMPUTER AUGMENTED LEARNING & ILLUSTRATING FACILITY (CALIF)

To design and deliver a facility for computer-augmented training in learning skills. This allowed students to design strategies of inquiry, organization, and testing of subject matter. The project was tested and evaluated in selected undergraduate courses in 5 departments. C.A.L.I.F.-mediated and non-C.A.L.I.F.-mediated sections of the same course were combined. It was hoped that C.A.L.I.F. would aid in updating and developing subject matter in specific areas and that it would provide a stimulus for student creativity through the correlation of subject matter with contemporary problems.
Budget Requested: $26,469 Budget Awarded: $27,365
Lenard Troncale

@POMONA TRONCALE ASST-PROFESSOR INTERDISCIPLINARY LOWER-DIVISION
@COMPUTER DATA-PROCESSING COMP-GROUPS DISCOVERY-TECHNIQUES
@CSUC CSUC-1 1974 FUNDS-027365

#1152 PSYCHOLOGY

IMITATING THE COMPUTER TO SOLVE LOGICAL "WORD PROBLEMS"

To teach students to "solve" a large class of "word problems" in the manner employed by computers. Students will be taught how to process information from a problem by performing recursive searches, eliminating excluded elements in "logic tables" as the problem conditions are scanned and eventually designating the only remaining non-excluded possibility as the solution.

The specific objectives of the project include: implementing the computer program "Universal Word Puzzle-Solver" on the CSUC computer system; developing additional problems; producing a flow-chart that students can imitate; requiring students to solve a new set of logical problems varying from simple ones to very complicated ones; and evaluating the effects of the imitate-the-computer experience; via a residual-gains experimental design.
Budget Requested: $8,574 Budget Awarded: $6,065
Nicholas A. Bond

@SACRAMENTO BOND PROFESSOR PSYCHOLOGY PROBLEM-SOLVING
@COMPUTER COURSE DEVELOPMENT CSUC CSUC-1 1976 FUNDS-006065

#1160 MATHEMATICS

MATHEMATICS CLASSROOM TEACHERS SUPPORT SYSTEM

====================

To improve the quality of mathematics instruction by the creation of a computer-scored test bank of 20,000 questions. These questions were entered, classified, and indexed, and a user's manual was produced. The bank is used to construct, upon request, qualifying and performance tests for intermediate algebra, trigonometry, and advanced algebra. By insuring that all students have the same level of knowledge, the instructor is not forced to cover elementary principles before proceeding with advanced material.

2200 students have participated at San Diego where the bank continues to be used extensively. The bank is available through the SOCRATES system.

Budget Requested: $30,965 Budget Awarded: $27,048

Charles Burton

@CSUC-SD BURTON PROFESSOR MATHEMATICS LOWER-DIVISION COMPUTER
@TESTING CSUC CSUC-I 1972 FUNDS-027048

#1180 POLITICAL SCIENCE

COMPUTER-AIDED INSTRUCTION: SOCIAL SCIENCE RESEARCH METHODS

====================

To develop a sequence of computer modules on the time-sharing system for students studying techniques of social science research. The system, which is autotutorial and self-pacing, provides the student with immediate feedback and maintains a record of each student's progress. The vehicle for the modules, the time-sharing system, is available on all CSUC campuses. The modules were tested and evaluated in the beginning political science courses in 1974.

Budget Requested: $28,756 Budget Awarded: $30,896

John Kramer Donald Dixon

@SONOMA KRAMER DIXON ASSOC-PROFESSOR ASST-PROFESSOR
@POLITICAL-SCIENCE LOWER/UPPER-DIV SELF-PACED-LEARNING
@AUTOTUTORIAL COMPUTER TESTING PSI COURSE REVISION
@UNDERGRAD-RESEARCH CSUC CSUC-I 1973 FUNDS-030896

#1197 BOTANY

COMPUTER ASSISTED INSTRUCTION – PLANT TAXONOMY

====================

To convert a series of computerized classification programs in Botany for use on the CDC network. These programs will provide a simplified identification system of plant taxonomy accessed through time-sharing computers. Humboldt, Northridge, and Sonoma faculty were involved. A user's manual for the program was prepared.

Budget Requested: $8,000 Budget Awarded: $8,000

Dennis Anderson

@HUMBOLDT ANDERSON PROFESSOR BOTANY LOWER-DIVISION
@LOWER/UPPER-DIV COURSE REVISION COMPUTER TESTING MULTICAMPUS
@STUDY-AIDS WORKSHOP CSUC CSUC-I 1975 FUNDS-008000

#1074 HUMANITIES

USING THE COMPUTER TO TEACH METHODS & INTERPRETATIVE SKILLS

To develop a new approach to computer-aided-instruction in the humanities, but adaptable to other academic areas. The project sought to demonstrate that CAI was able to deal with a multiplicity of answers and help students learn how to interpret information and defend their interpretations. A computer program was designed which encouraged student creativity. The CAI programs which were produced are available to other faculty in the CSUC system.
Budget Requested: $13,331 Budget Awarded: $12,998
Bruce Jones

@BAKERSFIELD JONES ASST-PROFESSOR HUMANITIES PSYCHOLOGY ENGLISH
@PHILOSOPHY RELIGIOUS-STUDIES LOWER/UPPER-DIV DISSEMINATION
@PROGRAM REVISION COMPUTER EVAL-SPECIALIST PROBLEM-SOLVING
@CSUC CSUC-1 1974 FUNDS-012998

#1085 INTERDISCIPLINARY

SOFTWARE DEVELOPMENT OF INTERDISCIPLINARY COMPUTER GRAPHICS

To develop software in art and adapt it to interdisciplinary uses. The overall goals of the project were to define graphics language requirements; test software by actual use in art and interdisciplinary graphics; document research and software packages; disseminate the results of research in software to all campuses in the CSUC system for their use; and plan CAI systems for graphics, with implications in other disciplines.
Budget Requested: $4,409 Budget Awarded: $10,283
Clement Luk Grace Hertlein

@CHICO LUK HERTLEIN ASST-PROFESSOR COMPUTER-SCIENCES ART
@INTERDISCIPLINARY UPPER-DIVISION COMPUTER VISUAL GRAPHICS
@TEAM-TEACHING DISSEMINATION PROGRAM DEVELOPMENT
@INFO-RETRIEVAL CSUC CSUC-1 1974 FUNDS-010283

#1077 ECONOMICS

PILOT EVALUATION PROGRAM – CLEP; EXAM IN MONEY & BANKING

====================

To test the effectiveness of the CLEP examination in money and banking. Faculty ranked the order of those students participating in the program, and the rankings were correlated with grades received in class and the CLEP exam to determine if the exam was a good predictor of performance.

It was concluded that 1) the CLEP money and banking exam was a good instrument based upon an item analysis of its content; 2) the test was a good predictor of student knowledge based upon the correlation between test scores, course grades, and class rankings; and 3) the original CLEP sampling group and results do not vary significantly from the CSUC sample group and computed statistics.

Budget Requested: $10,715 Budget Awarded: $10,057

Dissemination: Monograph available from New Program Development & Evaluation, Office of the Chancellor, CSUC. 62 pages.

John Menefee

@BAKERSFIELD MENEFEE ASST-PROFESSOR ECONOMICS LOWER-DIVISION
@GRADING-EXPERIMENT TESTING COURSE EVALUATION CREDIT-BY-EVAL
@DIRECTORS-OPINION CSUC CSUC-1 1974 FUNDS-010057

#1080 INTERDISCIPLINARY

CREDIT BY EXAMINATION

====================

To encourage student learning based upon diverse entry levels for individual courses and to pre-establish levels of competence for experiential learning. Several courses were offered for credit by examination but limited student response led to discontinuance of the project.

Budget Requested: $83,704 Budget Awarded: $24,840

Phyllis Bush

@CHICO BUSH DEAN INTERDISCIPLINARY EXPERIENTIAL-LEARNING
@CREDIT-BY-EVAL LOWER/UPPER-DIV STUDENT-OPINION CSUC CSUC-1
@1972 FUNDS-024840

#1137 MATHEMATICS

CREDIT BY EXAMINATION IN MATHEMATICAL PHYSICS

====================

To develop a self-paced, modularized PSI program in mathematical physics including such features as repeatability of examinations without penalty, minimal reliance upon lecture instruction, maximum individual faculty consultation, and use of student proctors.

Budget Requested: $14,980 Budget Awarded: $7,000

Mortimer N. Moore Robert T. Park Tung-Po Lin

@NORTHRIDGE MOORE PARK LIN PROFESSOR MATHEMATICS PHYSICS
@UPPER-DIVISION SELF-PACED-LEARNING PSI PEER-TEACHING
@MASTERY-LEARNING TESTING COURSE EVALUATION PROGRAM
@DEVELOPMENT CREDIT-BY-EVAL CSUC CSUC-1 1972 FUNDS-007000

#1153 INTERDISCIPLINARY

CREDIT BY EXAMINATION THROUGH INDEPENDENT STUDY

====================

To enhance the independent study component of the credit by examination program and increase the number of successful course challenges in the program. The project also sought to develop resource materials to improve the performance of students; provide a mechanism for high school students to gain college credits; and to explore the possibility of independent study/credit by examination as an integral part of external degree programs.

The pilot project involved 4 courses in the college curriculum – statistics, literature, biology, and educational psychology. Media and material were assembled to aid the students in their independent studies. The faculty were free to be used as course designers and learning facilitators. 62 students were involved in the 4 courses. The course continues to enroll approximately 35 students per term.

Budget Requested: $45,844 Budget Awarded: $32,997
Ralph Petrucci

@SAN-BERNARDINO PETRUCCI DEAN STATISTICS ENGLISH BIOLOGY
@PSYCHOLOGY INTERDISCIPLINARY LOWER/UPPER-DIV AUTOTUTORIAL
@CREDIT-BY-EVAL PROGRAM DEVELOPMENT CSUC CSUC-1 1972
@FUNDS-032997

#1162 HISTORY

CREDIT BY EXAMINATION IN WESTERN CIVILIZATION

====================

To develop a challenge examination program for credit in western civilization as an alternative to the course currently offered in history. Bibliographies, topical lists, and sample questions were developed for the examination, which was an essay question format and filled general education requirements in the scope of civilization. After a semester's experimentation, the program was cancelled because of limited student interest in and success on the examinations.

Budget Requested: Not Available Budget Awarded: $2,307
Oddvar Hoidal
@CSUC-SD HOIDAL PROFESSOR HISTORY LOWER-DIVISION CREDIT-BY-EVAL
@TESTING CSUC CSUC-1 1972 FUNDS-002307

#1163 ENGLISH

CREDIT BY EXAMINATION PROGRAM IN LITERATURE

====================

To develop credit by examination programs as alternatives for courses in American, British, and comparative literature and in creative writing. The program sought to accelerate student learning through independent study and challenge exams and enhance student initiative and interest through optimum self-paced learning.

Budget Requested: $7,190 Budget Awarded: $7,000
William Perkins

@CSUC-SD PERKINS PROFESSOR ENGLISH LITERATURE WRITING
@LOWER-DIVISION CREDIT-BY-EVAL TESTING PROGRAM DEVELOPMENT
@AUTOTUTORIAL CSUC CSUC-1 1972 FUNDS-007000

#1168 INTERDISCIPLINARY

EVALUATION OF EXPERIENTIAL LEARNING: GENERAL STUDIES

===================

To develop credit by evaluation procedures for assessing the academic credit to be awarded for learning in nonacademic off-campus situations. Faculty members from 4 academic areas assessed petitions for credit based on travel-language-cultural experiences, various types of tutoring experiences, and work experience. The number of students who submitted petitions for academic credit by evaluation, the student-credit hours produced, and faculty time used in the evaluation provided the basis for a workload proposal for regular assignment of faculty time for this purpose. In 1972-73, 174 students took part in the program.

Budget Requested: $12,069 Budget Awarded: $17,753
Bernice Biggs

@CSUC-SF BIGGS PROFESSOR LANGUAGE HUMANITIES EDUCATION
@BUSINESS INTERDISCIPLINARY LOWER-DIVISION EXPERIENTIAL-LEARNING
@CREDIT-BY-EVAL OFF-CAMPUS-INSTRUCTION PROGRAM REVISION CSUC
@CSUC-1 1972 FUNDS-017753

#1188 ENGLISH

ENGLISH EQUIVALENCY EXAMINATION

===================

To coordinate and administer a writing proficiency examination for entering freshmen. The examination combines an objective portion involving the analysis and interpretation of literature and the writing of 2 essays designed and scored by CSUC English faculty. In order to pass, students must demonstrate a level of competence equivalent to that acquired in freshman English composition courses. Those demonstrating such competence receive 6 semester units credit and can begin college English at a more advanced level. Of the 4,072 who took the exam in May, 1973, 1,363 are eligible for credit.

Budget Requested: $30,612 Budget Awarded: $65,196
Richard Lid Edward M. White

@MULTICAMPUS LID WHITE PROFESSOR ENGLISH WRITING
@LOWER-DIVISION TESTING CREDIT-BY-EVAL CSUC CSUC-1 1972
@FUNDS-065196

#1201 MATHEMATICS

SCIENCE-MATHEMATICS EQUIVALENCY TESTING

===================

To sponsor a science/mathematics examination session which would provide eligible entering students with credit by evaluation opportunities. The session will be offered in conjunction with the freshman English Equivalency Examination which is in its 5th year of successful operation.

Budget Requested: Not Available Budget Awarded: $21,447
James Hill

@MULTICAMPUS HILL ASSOC-PROFESSOR CHEMISTRY MATHEMATICS
@BIOLOGY CREDIT-BY-EVAL TESTING CSUC CSUC-1 1976 FUNDS-021447

ASSESSMENT

#1136 ECONOMICS

COMPREHENSIVE FINAL EXAM FOR B.A. IN ECONOMICS

To develop and administer a comprehensive final examination for senior graduating economics students and to improve teaching effectiveness in the economics department.

Budget Requested: $12,432 Budget Awarded: $12,237

James L. Esmay

@NORTHRIDGE ESMAY ASSOC-PROFESSOR ECONOMICS UPPER-DIVISION
@TESTING CREDIT-BY-EVAL PROGRAM DEVELOPMENT CSUC CSUC-1 1972
@FUNDS-012237

#1147 ENGINEERING

ASSESSMENT OF PRODUCTIVITY IN ENGINEERING SCHOOLS

To develop guidelines acceptable to faculty, CSUC administration, and industry to better assess the productivity of engineering instruction. This was done by measuring performance of engineering programs and providing an evaluation on procedure acceptable to all concerned. The project had impact on the management of the School of Engineering at Sacramento but did not fully meet objectives designed to include other engineering programs in the application of project results.

Budget Requested: $40,000 Budget Awarded: $32,406

W.W. Happ

@SACRAMENTO HAPP DEAN ENGINEERING UPPER-DIVISION
@PROGRAM DEVELOPMENT CSUC CSUC-1 1972 FUNDS-032406

#1186 BUSINESS

ASSESSMENT OF STANDARDIZED BUSINESS EXAMINATION

To validate the New York Regents' subject matter examination in business developed by SUNY and the ETS undergraduate Program Examination in business and to norm them in terms of California student populations. Faculty from Fullerton, Los Angeles, San Jose and San Luis Obispo and Sacramento directed experimental administration of the examinations.

Budget Requested: Not available Budget Awarded: $26,180

Malcolm White

@SACRAMENTO WHITE ASSOC-PROFESSOR BUSINESS-ADMIN UPPER-DIVISION
@TESTING MULTICAMPUS GRADING-EXPERIMENT PROGRAM EVALUATION
@CSUC CSUC-1 1972 FUNDS-026189

EVALUATION STUDIES

#1088 INTERDISCIPLINARY

EVALUATION OF PROGRESS TOWARD UNIVERSITY GOALS

====================

To assess the progress of CSU Chico toward attainment of its goals as stated in the University Academic Master Plan. Progress was largely determined by measuring the effect of various programs on students upon graduation and later as part of a longitudinal study. The project encouraged educational experimentation; involved the campus in self study leading to improvement in the effect upon the students, faculty and the community; and assessed educational and cost effectiveness of various teaching models and techniques. The evaluation used in this project has been used by the Western Association of Schools and Colleges as a model for accreditation self-studies conducted by other institutions.

Budget Requested: $49,109 Budget Awarded: $23,034
Robert Fredenburg

@CHICO FREDENBURG ADMIN-VP INTERDISCIPLINARY ALL-LEVELS SURVEY
@PRE-POST-TEST PEER-EVAL PROGRAM EVALUATION ALUMNI-INVOLVEMENT
@CSUC CSUC-1 1973 FUNDS-023034

#1093 INTERDISCIPLINARY

EVALUATION OF TWO ALTERNATIVE MODES OF INSTRUCTION

====================

To test the cost benefits of 1) programmed educational television, including analysis of motivation behavior, achievement criteria and classroom time; and 2) a system of continuous evaluation utilizing various educational media with weekly tutored testing.

It was expected that the student would learn more advanced concepts in less time through computerized simulation and behavioral simulation in a continuous evaluation mode. 50 students utilized 49, 30-minute films and programmed instruction. On the basis of project results, a modularized program with continuous testing was adopted for use but the televised course did not prove satisfactory based on student performances or student reaction.

Budget Requested: $30,300 Budget Awarded: $26,324
Charles Swanson

@FRESNO SWANSON PROFESSOR INTERDISCIPLINARY LOWER-DIVISION
@COMPUTER SIMULATION-GAME TESTING COURSE EVALUATION VISUAL
@TV FILM TUTORIAL DISSEMINATION PSI EQUIPMENT MULTIMEDIA
@AUDIO-VISUAL STUDENT-OPINION CSUC CSUC-1 1972 FUNDS-026324

#1128 BUSINESS

THE RELATION BETWEEN STUDENT EVALUATION AND LEARNING

====================

To test the validity of student evaluations of faculty performance. The study sought to determine if a statistical relationship existed between teachers' performances as measured by student evaluations and student learning. A number of variables were measured, including grade-point average, pre-knowledge, and age. Several introductory courses in business and economics were given in multiple sections with controlled uniform subject content, comprehensive testing, and identical student evaluation instruments of the instructors.

Little relationship was found between the student evaluations and grades received.
Budget Requested: $12,061 Budget Awarded: $12,296
Dissemination: Monograph available from New Program Development, Office of the Chancellor, CSUC. 17 pages.
Mildred G. Massey

@CSUC-LA MASSEY PROFESSOR BUSINESS-ADMIN ECONOMICS LOWER-DIVISION
@TESTING EVAL-SPECIALIST COMP-GROUPS SURVEY FACULTY-EVALUATION
@CSUC CSUC-1 1973 FUNDS-012296

#1185 INTERDISCIPLINARY

COMPUTER BASED CURRICULA INTERCHANGE

To inform CSUC faculty about instructional programs available through the existing time-sharing computer network and to train faculty in the use of computers and the development of CAI materials. 19 seminars/workshops were held for the presentation and explanation of materials in specific courses and for training faculty in new techniques of instruction using the computer. Evaluation showed increased faculty understanding and use of computer programs subsequent to the seminar/workshops.
Budget Requested: $71,957 Budget Awarded: $46,677
R. Gene Geisler

@CSUC-SF GEISLER PROFESSOR INTERDISCIPLINARY FACULTY-LEVEL
@COMPUTER SEMINARS WORKSHOP MULTICAMPUS FACULTY-DEVELOPMENT
@DISSEMINATION COURSE REVISION CSUC CSUC-1 1972 FUNDS-046677

#1202 WRITING

WRITING SKILLS PROJECTS EVALUATION

To prepare a report for systemwide evaluation on 9, 1975-76 innovative projects designed to increase student writing skills.
Budget Requested: Not Available Budget Awarded: $15,057
William Stryker

@MULTICAMPUS STRYKER PROFESSOR ENGLISH WRITING PSI CSUC
@CSUC-1 1976 FUNDS-015057

TEST DEVELOPMENT

#1136 ECONOMICS

COMPREHENSIVE FINAL EXAM FOR B.A. IN ECONOMICS

====================

To develop and administer a comprehensive final examination for senior graduating economics students and to improve teaching effectiveness in the economics department.
Budget Requested: $12,432 Budget Awarded: $12,237
James L. Esmay

@NORTHRIDGE ESMAY ASSOC-PROFESSOR ECONOMICS UPPER-DIVISION
@TESTING CREDIT-BY-EVAL PROGRAM DEVELOPMENT CSUC CSUC-1 1972
@FUNDS-012237

#1155 INTERDISCIPLINARY

COMPREHENSIVE EXAMINATION OPTIONS

====================

To test the feasibility of comprehensive examinations as an alternative to college classroom instruction. The project sought to develop a range of models that could effectively apply the principle of comprehensive examination [illegible] as great a variety of disciplines as possible.

41 students were involved in the project. It was concluded that a need existed to develop more numerous and diversified mechanisms of student feedback, both to offset most students' felt absence of personal contact and to provide constructive suggestions and student evaluation that could help to improve the operation of comprehensive examinations as an alternative to classroom instruction.
Budget Requested: $62,803 Budget Awarded: $19,774
Leslie Van Marter

@SAN-BERNARDINO VAN-MARTER CHAIRPERSON PSYCHOLOGY BIOLOGY
@EDUCATION SOCIOLOGY INTERDISCIPLINARY UPPER-DIVISION
@CREDIT-BY-EVAL TESTING CSUC CSUC-1 1972 FUNDS-019774

#1192 CHEMISTRY/ACCOUNTING

COMPREHENSIVE EXAMS BY COMPUTER: CHEMISTRY & ACCOUNTING

====================

To develop comprehensive examinations in accounting and chemistry through the use of the computerized test item data bank, SOCRATES.
Budget Requested: Not Available Budget Awarded: $73,623
R. Gene Geisler

@MULTICAMPUS GEISLER ASSOC-DIRECTOR CHEMISTRY ECONOMICS
@ACCOUNTING FACULTY-LEVEL COMPUTER TESTING CSUC CSUC-1 1974
@FUNDS-073623

#1194 BUSINESS-ADMIN

DEVELOPING EXAMINATION PROCEDURES IN INTRO BUSINESS COURSES

====================

To review available standardized examinations for use by CSUC business programs for courses in business law and introductory accounting and economics. Faculty panels assessed the examinations in terms of the major objectives of the respective courses and, where existing tests were unsatisfactory, suggested new resources to be developed by CSUC faculty.

Budget Requested: Not Available Budget Awarded: $7,570

Barrie Bortnick

@MULTICAMPUS BORTNICK COORDINATOR ECONOMICS BUSINESS-ADMIN
@ACCOUNTING LOWER-DIVISION FACULTY-LEVEL CREDIT-BY-EVAL TESTING
@CSUC CSUC-1 1974 FUNDS-007570

BASIC SKILLS

#1078 PSYCHOLOGY

COGNITIVE/LINGUISTIC BASIC SKILLS TRAINING

====================

To extend research in the area of linguistic and cognitive psychological theory in order to increase understanding of the basic skills problem and to provide ways to teach the basic cognitive skills. The findings will be disseminated through workshops and in written materials to be used by college teachers, students in teacher-credential programs, in-service public school teachers, and persons working in remedial and tutorial programs.

Evaluation will be based on the extent workshop participants work with the materials and produce new ideas and materials of their own. Questionnaires will be distributed testing the acceptance of the method and faculty perception of its usefulness for their purposes.

Budget Requested: $15,780 Budget Awarded: $16,622

Donald C. Green Allen L. Seltzer

@BAKERSFIELD GREEN SELTZER ASSOC-PROFESSOR ENGLISH
@PSYCHOLOGY FACULTY-LEVEL WORKSHOP DISSEMINATION COURSE
@DEVELOPMENT TESTING FACULTY-DEVELOPMENT CSUC CSUC-1 1976
@FUNDS-016622

#1092 CHEMISTRY

IMPROVEMENT OF BASIC SKILLS & CONCEPTS FOR BASIC CHEMISTRY

====================

To develop Piaget-type tests to determine the level of intellectual development in beginning chemistry students; to develop a math qualifying test in order to identify the lack of basic math skills; and to write a package of self-paced modules to help beginning students improve their basic skills. The modules included models, explanations, worked-out examples, and precise problems. Computer-generated pre- and posttests were used for review and relearning. The module package and tests were evaluated regularly for improvement by the directors in consultation with psychology, math, and chemistry faculty.

Budget Requested: $19,965 Budget Awarded: $13,327

Ulrich de la Camp William Wilk

@DOMINGUEZ-HILLS DE-LA-CAMP WILK ASSOC-PROFESSOR CHEMISTRY
@MATHEMATICS PSYCHOLOGY LOWER-DIVISION SELF-PACED-LEARNING
@PRE-POST-TEST PSI COMPUTER TESTING STUDY-AIDS COURSE
@EVALUATION CREDIT-BY-EVAL REMEDIAL-REFRESHER DIRECTORS-OPINION
@PEER-EVAL CSUC CSUC-1 1975 FUNDS-013327

#1109 INTERDISCIPLINARY

INTELLECTUAL DEVELOPMENT OF COLLEGE SCIENCE STUDIES

====================

To select concepts and principles from across the university science curriculum that can be taught with concrete and formal thinking processes. On the basis of this selection, a multidisciplinary science program will be designed based on thinking processes, learning experiences, and teaching strategies that enhance intellectual development in college science students.

Learning seminars in the development of reasoning skills by students rather than course concepts were held for members of the project staff.

Budget Requested: $8,073   Budget Awarded: $8,073
Francis Collea

@FULLERTON COLLEA PROFESSOR BIOLOGY PHYSICS CHEMISTRY
@INTERDISCIPLINARY SEMINARS DISCOVERY-TECHNIQUE
@FACULTY-DEVELOPMENT CSUC CSUC-1 1975 FUNDS-008073

#1110 INTERDISCIPLINARY

READING AND THINKING SKILLS PROJECT

====================

To develop undergraduate students' reading and higher level thinking skills. In this project materials will be developed and made available in a variety of ways such as 3 unit courses, a series of minicourses, self instructional modules, and a reading assistance "drop-in" program, to train students in effective and efficient methods of reading and analyzing written works. Once basic skills have been developed, students will be instructed in how to apply them in their respective academic disciplines and how to use them for independent problem solving and decision making. Graduate students will assist in designing and implementing the program and will work with adult learners in a clinician-student relationship.
Budget Requested: $19,988   Budget Awarded: $16,761
Ann Coil

@FULLERTON COIL COORDINATOR INTERDISCIPLINARY ALL-LEVELS
@SELF-PACED-LEARNING PEER-TEACHING PSI MINICOURSE PROGRAM
@DEVELOPMENT PROBLEM-SOLVING TA-TRAINING CSUC CSUC-1 1976
@FUNDS-016761

#1119 MATHEMATICS

BASIC MATH SKILLS FOR THE MULTIPLE SUBJECT TEACHER

====================

To develop a 3-quarter self-paced course in mathematics for the potential elementary school teacher. 12-15 units will be designed, each of which will include a statement of objectives, an annotated bibliography, and learning activities designed to develop the specified skills and sample examinations. Units may be taken at any time and in any sequence, and teaching will take place through the use of simple mathematical devices in activity sessions with supplementary mini-lectures. Units will include: sets, logic, rational numbers, computational logarithms, probability and measurement.

Students will take examinations at the completion of each unit of study, and a standard math department evaluation form will also be distributed.
Budget Requested: $13,014   Budget Awarded: $12,657
Phyllis Zweig Chinn

@HUMBOLDT CHINN PROFESSOR MATHEMATICS EDUCATION
@SELF-PACED-LEARNING MINICOURSE COURSE REVISION STUDY-AIDS
@PSI TESTING CSUC CSUC-1 1976 FUNDS-012657

#1121 INTERDISCIPLINARY

LEARNING ASSISTANCE SUPPORT SYSTEM

=====================

To mobilize existing campus and community resources in a central learning facility to make them accessible to students as learning aids. Emphasis was placed on the need to develop skills and attitudes which would facilitate learning and reduce attrition. 3 types of learners took advantage of the program: students receiving a "D" and "C" who wanted to improve their grades; and students who wanted to learn more in less time. In 1972-73, 3,500 students were served. The center also helped faculty and administrators from all CSUC campuses to identify and develop self-paced learning assistance programs.

Budget Requested: $36,273 Budget Awarded: $35,549
Frank Christ

@LONG-BEACH CHRIST COORDINATOR ALL-LEVELS INTERDISCIPLINARY
@SELF-PACED-LEARNING PSI CENTER STUDY-AIDS MULTIMEDIA
@AUDIO-VISUAL AUDIO VISUAL WORKSHOP FACULTY-DEVELOPMENT
@DISSEMINATION CSUC CSUC-1 1972 FUNDS-035549

#1130 INTERDISCIPLINARY

BASIC SKILLS IN WRITING FOR BILINGUAL STUDENTS

=====================

To create specific audio and visual materials addressed to the writing problems of the ethnic groups and foreign students who make up the major population of the course. The program sought to train a small core of teachers in socio- and psycho-linguistic methods; to train faculty members with non-English specialties to offer interdisciplinary composition courses; and to develop an English language laboratory. 20 modules were developed, each of which was geared to present contrasting analyses of standard English with the language and dialects of bilingual students.

Budget Requested: $16,089 Budget Awarded: $16,861
Saralyn Daly Sharon Bassett

@CSUC-LA DALY BASSETT PROFESSOR ENGLISH WRITING
@INTERDISCIPLINARY LOWER-DIVISION AUDIO AUDIO-VISUAL
@TAPE-RECORDING FACULTY-DEVELOPMENT COURSE DEVELOPMENT
@DEPT-LABORATORY CSUC CSUC-1 1975 FUNDS-016861

#1132 MATHEMATICS

BASIC ACADEMIC SKILLS THROUGH INDIVIDUALIZED COURSE STRATEGY

=====================

To improve the expectation of success for students in beginning traditional college level mathematics courses. The level of entry for each student is determined by his performance on a battery of diagnostic tests drawn from the SOCRATES system. Once the level of entry is determined, students proceed through a self-paced program of instruction using a multimedia approach. There are 15 levels of progress in Algebra 1, each consisting of 4 to 8 lessons.

Student attitudes are evaluated by means of questionnaires and interviews.

Budget Requested: $13,958 Budget Awarded: $14,276
Joseph Casanova

@CSUC-LA CASANOVA PROFESSOR MATHEMATICS SELF-PACED-LEARNING
@PSI STUDY-AIDS AUDIO-VISUAL TV TV-TAPED COMPUTER PRE-POST-TEST
@STUDENT-OPINION TESTING PROGRAM REVISION MULTIMEDIA CSUC
@CSUC-1 1975 FUNDS-014276

#1151 ENGLISH/MATHEMATICS/COUNSELING

INTEGRATED LEARNING ASSISTANCE PROJECT

====================

To establish the CSUC Sacramento Learning Assistance Program (LAP) to serve student needs in basic and advanced study skills and in needed verbal and quantitative skills. The LAP will coordinate the Math and English Tutoring Center services, and provide a variety of services through the development of a Learning Skills Center. Counseling, advising, and testing services will be tied to academic tutoring centers through a system of student diagnoses and referral based on a student skills assessment profile.

Diagnostic pre- and posttests will be administered to students using LAP in order to assess deficiencies and measure improvement; program evaluation will include an opinion survey on the effectiveness of the LAP in general and on the tutor training in specific, and a survey of faculty whose students participate in the LAP.

Budget Requested: $19,960 Budget Awarded: $19,587
Charles Moore Nina Krebs Joseph Aiello Henry Tjoelker

@SACRAMENTO MOORE KREBS AIELLO TJOELKER ASSOC-PROFESSOR
@DIRECTOR LECTURER PROFESSOR ENGLISH MATHEMATICS COUNSELING
@TUTORIAL TESTING PROGRAM DEVELOPMENT SURVEY CENTER
@PRE-POST-TEST CSUC CSUC-1 1976 FUNDS-019587

#1157 INTERDISCIPLINARY

BASIC SKILLS: ENGLISH COMPOSITION AND PHILOSOPHY

====================

To design an interdisciplinary course to teach students the basic skills of expression and argument required for both Freshman Composition, and Philosophy 105 – Argument and Evidence. Students learned to analyze what they read; to adapt their writing to an audience using a variety of forms of expression and to evaluate their writing; and to speak and listen to a structured discussion. Evaluation will include comparison of the results of the test group with students in a control group; and comparison of videotaped discussions held by the test group with the behavior of the control group.

Budget Requested: $12,986 Budget Awarded: $12,957
Bruce Golden Eugene Garver

@SAN-BERNARDINO GOLDEN GARVER ASSOC-PROFESSOR ASST-PROFESSOR
@ENGLISH PHILOSOPHY LOWER-DIVISION INTERDISCIPLINARY
@TEAM-TEACHING AUDIO-VISUAL TV TV-TAPED COURSE DEVELOPMENT
@COMP-GROUPS CSUC CSUC-1 1975 FUNDS-012957

#1167 ENGLISH

AN EXPERIMENTAL APPROACH TO TEACHING BASIC WRITING SKILLS

To test an experimental approach to teaching writing skills. This approach is based upon a theoretical model design to aid students in understanding the principles underlying pattern recognition and how grammar is transformed and generated. Students were presented with problem-solving exercises which allowed them to discover the grammar rules that apply in certain given situations then consciously transfer them to use when writing.

In the second phase of the project 6 writing classes participated in an evaluative study to determine which of 3 approaches – the traditional model, a competency-based model, or the experimental model – allowed students to achieve the greatest improvement on writing skills.

Budget Requested: $10,961 Budget Awarded: $10,594
Suzette Elgin Shirley Anne Rush

@CSUC-SD ELGIN RUSH ASST-PROFESSOR ADMIN-VP ENGLISH LINGUISTICS
@LOWER-DIVISION TUTORIAL AUDIO-VISUAL TV TV-TAPED COMP-GROUPS
@COURSE REVISION PROBLEM-SOLVING CSUC CSUC-1 1975 FUNDS-010594

#1173 ENGLISH

A PSI APPROACH TO THE BASIC ENGLISH COMPOSITION COURSE

To develop a personalized instructional approach to English composition. Diagnostic tests determine the composition competencies of entering students. Mediated materials and activities are prescribed to help students overcome weaknesses and achieve competency. The PSI approach to English composition allows students with a strong background to complete course requirements with a minimum amount of help and time, freeing the instructor to work with students with serious problems.

An individualized study center, manned almost constantly by instructors or teaching assistants, allows flexible scheduling. The method was tested in 6 sections in spring 1974 and 4 sections in fall 1974.

Budget Requested: $45,583 Budget Awarded: $10,098
Marylou Lewandowski

@SAN-JOSE LEWANDOWSKI ASST-PROFESSOR ENGLISH WRITING
@LOWER-DIVISION TESTING PSI SELF-PACED-LEARNING TESTING
@AUDIO-VISUAL COURSE REVISION COURSE-LABORATORY CSUC CSUC-1
@1973 FUNDS-010098

#1117 BASIC SKILLS

INTEGRATIVE BASIC SUBJECTS EMPHASIS PROGRAM

To develop students' mastery of basic concepts in academic majors and contrasting discipline perspectives. The program sought to 1) improve students' communication skills by increasing their capacity to articulate, edit, and revise written and oral work, and to increase students' ability to organize thoughts imparting continuity, subordination, centrality, and suitable degree of evidence and concrete illustration.

Evaluation methods include: pre- and posttesting of written and oral competencies; faculty evaluations of students who take the options and student perception of their own improvements.

Budget Requested: Not Available Budget Awarded: $16,146

Whitney Buck

@HUMBOLDT BUCK DEAN ACADEMIC-AFFAIRS ENGLISH COMMUNICATIONS
@SPEECH BIOLOGY PHYSICS ENVIRONMENTAL-STUDIES CHEMISTRY
@INTERDISCIPLINARY PRE-POST-TEST MASTERY-LEARNING
@FACULTY-EVALUATION CSUC CSUC-1 1975 FUNDS-016146

GENERAL EDUCATION

#1108 CHEMISTRY/PHYSICS

SCIENCE EDUCATION FOR NONSCIENCE MAJORS

====================

To increase the nonscience major's enthusiasm for science and to enhance his/her understanding of basic scientific principles and methodology. A course, "Man and His Physical Environment" was developed with matching NSF funds. Equipment was purchased and manuals were prepared for each experiment performed. Students met during the first three weeks of the semester for discussion and then proceeded with their individual or joint projects.

88 students, whose majors covered a variety of nonscience fields, participated in the experiments using sophisticated equipment. This program and the multicampus "Interdisciplinary Modularized Program for Non-Science Students" combined to receive additional funding in 1976.

Budget Requested: $24,400 Budget Awarded: $12,190
B.J. Finlayson R.C. Belloli H. Blend R. Nanes

@FULLERTON FINLAYSON BELLOLI BLEND NANES PROFESSOR
@ASSOC-PROFESSOR PROFESSOR ASST-PROFESSOR PHYSICS CHEMISTRY
@LOWER-DIVISION COURSE-LABORATORY STUDY-AIDS EQUIPMENT NSF
@CSUC CSUC-1 1976 FUNDS-012190

#1116 INTERDISCIPLINARY

NEW GENERAL EDUCATION SEQUENCE IN SCIENCE

====================

To develop a sequence of 3 nontraditional courses for general education in the sciences, based upon behavioral objectives. This project is one of a series of alternative pathways offered by the new general education science program, which matches student profiles with various instructional modes to insure maximum educational benefit with optimum efficiency of resources.

Interdisciplinary, self-paced modularized courses based on the individually prescribed instruction mode were designed and pilot-tested, and a learning center was established. Spinoff programs were developed in mathematics.

Budget Requested: $46,656 Budget Awarded: $43,946
Raymond Barratt

@HUMBOLDT BARRATT DEAN MATHEMATICS CHEMISTRY BIOLOGY
@INTERDISCIPLINARY LOWER-DIVISION PSI SELF-PACED-LEARNING
@DISCOVERY-TECHNIQUE COURSE-LABORATORY CENTER COURSE REVISION
@DISSEMINATION CSUC CSUC-1 1972 FUNDS-043946

#1133 INTERDISCIPLINARY

DEVELOPMENT OF A GENERAL EDUCATION HONORS PROGRAM

====================

To explore the feasibility of offering an alternative interdisciplinary urban-focused, general education program. The program was designed to give high potential students more flexibility in educational options and to accelerate their progress toward their academic goals while helping the community to find answers to complex urban problems. Evaluation consisted of an assessment of the educational needs of participants at the outset of the program and an assessment of student progress in 3 special general education courses in which 70 students participated. Positive student and faculty evaluation led to refunding in 1976.

Budget Requested: $20,531 Budget Awarded: $10,141
Elwood Trigg Janet Tricano

@CSUC-LA TRIGG TRICANO CHAIRPERSON ASST-PROFESSOR
@INTERDISCIPLINARY LOWER-DIVISION STUDENT-OPINION PROGRAM
@DEVELOPMENT CSUC CSUC-1 1975 FUNDS-010141

PROFESSIONAL DEVELOPMENT

#1081 BUSINESS

FACULTY DEVELOPMENT IN THE SCHOOL OF BUSINESS

====================

To familiarize faculty in the School of Business with new educational technology and its use. A 2 day conference on advanced technology provided information about the latest technology in areas such as computer terminals, audiovisual TV preparation display systems, and communications equipment. The conference was followed by weekly workshops and seminars in computer applications, multi-media techniques, multi-media materials preparation, student progress evaluation; and media development projects. In 1972-73, 16 students and 65 faculty members participated in the program. The project was refunded in 1973-74.

Budget Requested: Not Available Budget Awarded: $6,921
Paul Kinney

@CHICO KINNEY DEAN INTERDISCIPLINARY AUDIO-VISUAL MULTIMEDIA
@TV COMPUTER FACULTY-LEVEL FACULTY-DEVELOPMENT PROGRAM
@DEVELOPMENT INFO-RETRIEVAL CONFERENCE SEMINARS WORKSHOP
@DEMONSTRATIONS STUDENT-PERFORM TV-TAPED AUDIO VISUAL CSUC
@CSUC-1 1972 FUNDS-006921

#1084 INTERDISCIPLINARY

CADRE DEVELOPMENT OF FACULTY

====================

To organize a cadre group of 3 member faculty teams to develop specific instructional learning modules. Cadres focused on media development in current programs. For example: introductory courses in basic skills; media development in new areas using new approaches; such as small modules which dealt with art-science interrelationships; and the formulation of instructional design teams which took advantage of the diversity of faculty expertise and technical support staff. Faculty who completed the first phase of the project helped train the others.

Budget Requested: $121,379 Budget Awarded: $33,808
Phyllis Bush

@CHICO BUSH DEAN INTERDISCIPLINARY FACULTY-LEVEL
@FACULTY-DEVELOPMENT AUDIO-VISUAL MULTIMEDIA DISCUSSION-GROUPS
@PROGRAM DEVELOPMENT CSUC CSUC-1 1974 FUNDS-033808

#1118 INTERDISCIPLINARY

COMPREHENSIVE STUDENT WRITING SKILLS PROGRAM

====================

To design a course for faculty training in teaching composition in disciplines other than English. The specific objectives of the proposal include: establishing a course for college faculty training in teaching student writing skills and demonstrating that courses in various disciplines can be effectively revised to include instruction in composition while still meeting the major existing course objectives.

A lower division humanities and basic subjects program will be developed to improve student writing skills.

Students will be required to use the chief concepts of his or her discipline in order to understand their basic assumptions.

Faculty will participate as students in the pilot course for the winter quarter and will teach composition in their respective subject areas in spring quarter.

Budget Requested: $23,218 Budget Awarded: $20,717

Ronald R. Young

@HUMBOLDT YOUNG DEAN ENGLISH WRITING COMMUNICATIONS SPEECH
@BIOLOGY HISTORY INTERDISCIPLINARY WORKSHOP PROGRAM
@DEVELOPMENT FACULTY-DEVELOPMENT FACULTY-LEVEL LOWER-DIVISION
@CSUC CSUC-1 1976 FUNDS-020717

#1164 INTERDISCIPLINARY

INSTRUCTIONAL DEVELOPMENT PROGRAM FOR UNIVERSITY PROFESSORS

====================

To establish an instructional development program to identify individual faculty interested in pursuing innovative approaches in their teaching. Emphasis was placed on those faculty working with a substantial number of students. They were assisted in the use of such strategies and techniques as individual study centers, television, computer-assisted instruction, and simulation.

Budget Requested: $42,710 Budget Awarded: $40,500

Trevor Colbourn

@CSUC-SD COLBOURN ADMIN-VP INTERDISCIPLINARY FACULTY-LEVEL
@FACULTY-DEVELOPMENT SEMINARS WORKSHOPS TV AUDIO-VISUAL
@SIMULATION-GAME COMPUTER COURSE-LABORATORY CSUC CSUC-1 1974
@FUNDS-040500

#1187 INTERDISCIPLINARY

PROFESSIONAL DEV'T WORKSHOP FOR DEPARTMENTAL CHAIRPERSONS

====================

To develop departmental chairpersons' professional skills and administrative effectiveness in the area of faculty evaluation by means of training programs. Workshops were staffed by members of CSU Long Beach Counseling Center and CSU Fullerton faculty with special expertise in various styles of leadership development.

Budget Requested: Not Available Budget Awarded: $31,873

Lois R. Feldheym

@MULTICAMPUS FELDHEYM SPECIALIST INTERDISCIPLINARY FACULTY-LEVEL
@FACULTY-DEVELOPMENT WORKSHOP CSUC CSUC-1 1972 FUNDS-038173

#1189 INTERDISCIPLINARY

FACULTY EXCHANGE

==================

To determine the feasibility of establishing a CSUC systemwide procedure for stimulating and coordinating intercampus faculty exchanges and to determine the feasibility of limited funding from the state for the operation of a regularly established exchange program.

In the 1975-76 Budget Act funds were allocated for administration of such a program of faculty exchanges.

Budget Requested: $15,013 Budget Awarded: $13,007

David Benson

@NORTHRIDGE BENSON DEAN INTERDISCIPLINARY FACULTY-LEVEL
@STIPENDS FACULTY-DEVELOPMENT MULTICAMPUS CSUC CSUC-1 1973
@FUNDS-013007

#1193 INTERDISCIPLINARY

CENTER FOR PROFESSIONAL DEVELOPMENT

====================

To establish a systemwide center as an organizational structure to assist campuses to develop individual programs for professional development. The Center is designed to respond to such current problems as decreased faculty mobility, declining resources, changing student populations, and tenured-in faculty. In an open competition for alternative models of teaching improvement programs, 6 were chosen to be tested on the following campuses: Bakersfield, Chico, Fresno, Northridge, San Bernardino, and San Jose. The Center was awarded a 3-year grant from the Fund for the Improvement of Postsecondary Education and receives matching annual funds from the participating campuses and the CSUC Fund for Innovation and Improvement in the Instructional Process.

Budget Requested: Not Available Budget Awarded: $88,056

David H. Ost

@MULTICAMPUS OST DIRECTOR INTERDISCIPLINARY FACULTY-LEVEL
@MULTICAMPUS FACULTY-DEVELOPMENT CENTER WORKSHOP SEMINARS
@INSTRUCTOR-SELF-EVALUATION EXTRAMURAL HEW MULTICAMPUS S
@CSUC CSUC-1 1974 FUNDS-088056

ADVISING

#1073 INTERDISCIPLINARY

ACADEMIC ADVISING MODELS BASED ON STUDENT CHARACTERISTICS

To develop a database to determine the statistical relationships between student characteristics and academic outcome. Data were collected on the attitudinal, demographic, personality, and academic characteristics of students in innovative and traditional course formats. Models were constructed for predicting the outcome of a student's career on the basis of these characteristics. It was then possible to counsel students to take courses whose formats were of the type in which it was predicted that they would have the most success. 438 students were involved.

Budget Requested: $11,375 Budget Awarded: $7,419

Dissemination: Monograph available from New Program Development & Evaluation, Office of the Chancellor, CSUC, 52 pages.

David C. Cohen

@BAKERSFIELD COHEN ASSOC-PROFESSOR INTERDISCIPLINARY
@LOWER/UPPER-DIV PROGRAM REVISION PSI SELF-PACED-LEARNING
@COUNSELING CSUC CSUC-1 1974 FUNDS-007419

#1122 INTERDISCIPLINARY

CAREER DEVELOPMENT INSTITUTE

To develop new formats for the study, research, and teaching of new instructional and evaluation methods. A mini-institute was held for selected CSU Long Beach faculty on effective and innovative teaching techniques. Continued evaluation of a 1972 Summer Career Development Institute, co-sponsored by The California State University and Colleges system and CSU Long Beach, and funded through the federal N.P.D.A. program, provided perspective on the extent to which innovative teaching techniques learned at this Institute have been introduced on systemwide campuses.

The project also established a center for the compilation and annotation of the rapidly developing sources of information on teaching techniques. Located on the Long Beach campus, this resource center will be available to other campuses.

Budget Requested: Not Available Budget Awarded: $15,000

James N. McClelland

@LONG-BEACH MCCLELLAND DEAN INTERDISCIPLINARY MULTICAMPUS
@FACULTY-LEVEL FACULTY-DEVELOPMENT CENTER SEMINARS
@DISSEMINATION CSUC CSUC-1 1972 FUNDS-015000

#1123 INTERDISCIPLINARY

CAREER AND PERSONAL EXPLORATION COURSES

To develop a course which will provide career and life planning experience for undeclared majors at CSU Long Beach through a combination of self-paced, individualized instruction, psychological testing, group discussion, and work experience. Students were encouraged to increase their awareness of their abilities, interests, and values; to increase their knowledge about occupations in which they were interested; to increase decision-making skills,

self-management skills, communication skills and to move closer to making a career decision. The project proved to be highly successful. 375 students enrolled in the 1974-75 academic year, and the course is now fully operational as part of the regular curriculum.
Budget Requested: $14,036 Budget Awarded: $14,592
Kenneth Weisbrod Tom Stevens

@LONG-BEACH WEISBROD STEVENS ASSOC-DEAN COUNSELOR
@INTERDISCIPLINARY LOWER-DIVISION SELF-PACED-LEARNING PSI
@EXPERIENTIAL-LEARNING AUDIO-VISUAL COURSE DEVELOPMENT TESTING
@DISCUSSION-GROUPS INTERNSHIP CSUC CSUC-1 1974 FUNDS-014592

#1166 SPEECH/HEARING

COMPUTER ASST ADVIS SYSTEM--SPCH PATH, AUDIOL&ED FOR DEAF

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To develop a computer-based program to improve academic advising, special counseling, and curricular planning. The program assists in record-keeping that permits early identification of students in need of special counseling and advising, reduces the time spent by faculty in routine advisement and permits greater faculty attention to individual student needs. The system made it possible to more accurately predict class loads, number of course sections, and faculty utilization.
Budget Requested: $19,390 Budget Awarded: $12,245
Elizabeth Allen Leonard Ellis

@CSUC-SD ALLEN ELLIS ASSOC-PROFESSOR ASST-PROFESSOR
@SPECIAL-EDUCATION SPEECH/HEARING COUNSELING COMPUTER
@ACADEMIC-ADVISING CSUC CSUC-1 1975 FUNDS-012245

#1190 INTERDISCIPLINARY

CAREER EDUCATION COMMITTEE

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To extend career education services to help prepare students for careers after graduation. The project sought to 1) increase faculty knowledge of placement, counseling personnel, and career opportunities available to various academic disciplines, and relate this knowledge to students' academic goals; 2) institutionalize relationships between individual faculty members and the segments of the business, industrial, and governmental communities which provide such career opportunities; 3) assist in the initiation of contacts leading to the development of credit-earning cooperative educational components within appropriate curricula; 4) facilitate exploration of steps for development of teacher training programs that would prepare future teachers and inservice teachers so they could acquaint students with career opportunities before they enter the college or university. 8 faculty members were involved in the project.
Budget Requested: $24,706 Budget Awarded: $24,706
Dissemination: Report available from New Program Development and Evaluation, Office of the Chancellor, CSUC. 95 pages
Thomas Graham

@CSUC-LA GRAHAM ASSOC-DEAN INTERDISCIPLINARY FACULTY-LEVEL
@MULTICAMPUS SEMINARS WORKSHOP CAREER-PLANNING INTERNSHIP
@FACULTY-DEVELOPMENT DISSEMINATION CSUC CSUC-1 1973
@FUNDS-024706

#1200 INTERDISCIPLINARY

EDUCATIONAL REGISTRY/ADVISORY SERVICE

====================

To conduct a study on the need and practicability of establishing a systemwide academic advisory service. Such a service could include an educational recording service for students whose learning has been gained in non-CSUC or noncollegiate setting; an assessment service through which students may demonstrate the creditability of noncollegiate learning; and an advisory service to direct students compatible with their goals and current learning. The study by an independent investigator will include a student needs survey and extensive consultation with campus administrators and faculty.

Budget Requested: Not Available Budget Awarded: $18,91
Barrie Bortnick

@MULTICAMPUS BORTNICK COORDINATOR INTERDISCIPLINARY ALL-LEVELS
@CREDIT-BY-EVAL EXPERIENTIAL-LEARNING EVAL-SPECIALIST CSUC CSUC-1
@1976 FUNDS-018916

MISCELLANEOUS

#1090 INTERDISCIPLINARY

PROJECT OVERLAY: CONCURRENT HIGH SCHOOL/COLLEGE EDUCATION

====================

To combine the last year of high school and the first year of college into one concurrent academic year. This alternative educational program: 1) optimized the fiscal resources of the college; 2) utilized the best instructional talent of college and high school; and 3) conserved the time and energy of participating students by reducing duplication of academic offerings between the 12th and 13th year of school.

The project was planned and implemented by a design team of 3 faculty working under the direction of a program coordinator. 75 students took part in the program.

Budget Requested: $33,684 Budget Awarded: $26,804
Dissemination: Monograph available from New Program Development and Evaluation, Office of the Chancellor, CSUC
95 Pages
Rhody Ringis

@DOMINGUEZ-HILLS RINGIS DIRECTOR INTERDISCIPLINARY LOWER-DIVISION
@OFF-CAMPUS-INSTRUCTION PROGRAM DEVELOPMENT CSUC CSUC-1 1973
@FUNDS-026804

#1129 PHYSICAL ED.

REORGANIZATION AND EXPANSION OF P.E. 155

====================

To develop a physical activity program for disabled students. A survey of handicapped students was conducted in order both to determine their additional activity needs and interest and to use this information to develop a pilot program of curricular and extra-curricular offerings.

30 of the 416 moderately to severely handicapped students on the CSU Los Angeles campus were enrolled in physical activity classes in the spring quarter.

Budget Requested: $14,974 Budget Awarded: $15,134
Janet Seaman

@CSUC-LA SEAMAN ASST-PROFESSOR PHYSICAL-ED LOWER-DIVISION
@SURVEY COURSE REVISION CSUC CSUC-1 1974 FUNDS-015134

#1195 INTERDISCIPLINARY

CSUC DESERT STUDIES CENTER

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To establish a desert studies center at Soda Springs in the Mojave Desert and institute a number of instructional desert field study programs to be offered there. The facility will be available on a year round basis as a residential center for research and training in the study of desert phenomena. 7 campuses (Dominguez Hills, Fullerton, Los Angeles, Long Beach, Northridge, Pomona, and San Bernardino) will participate in the program.

Budget Requested: $15,570 Budget Awarded: $12,328
Dalton Harrington

@SAN-BERNARDINO HARRINGTON CHAIRPERSON BIOLOGY EARTH-SCIENCES
@GEOLOGY ANTHROPOLOGY CHEMISTRY PHYSICS MULTICAMPUS

@INTERDISCIPLINARY RESIDENCE-ACTIVITY PROGRAM DEVELOPMENT CSUC
@CSUC-1 1975 FUNDS-012323

#1145 MISCELLANEOUS

OPTIMIZING EFFECTIVENESS OF THE DISCUSSION METHOD

====================

To investigate the effectiveness of the learning through discussion (LTD) method, which has not been subjected to rigorous evaluation. 6 classes were chosen representing different disciplines and with student composition of the groups systematically varied according to interpersonal-interaction preferences based on GPA, sex and minority group status. Discussion sessions were monitored and an actual group session of an optimally composed group was videotaped for use as a training film in the LTD method.

350 students participated in the project. The LTD method proved successful in increasing students' concern with educational objectives and encouraging them to take more responsibility for their own education.

Budget Requested: $31,000 Budget Awarded: $21,518
William Hill

@POMONA HILL PROFESSOR INTERDISCIPLINARY LOWER/UPPER-DIV
@AUDIO-VISUAL TV TV-TAPED DISCUSSION-GROUPS VISUAL CSUC CSUC-1
@1973 FUNDS-021518

#1174 MISCELLANEOUS

WRITING SKILLS NEEDS SURVEY

====================

To survey schools and departments to determine specific needs for improvement in writing skills. Based on the results of this survey by a faculty coordinator, recommendations will be made for each academic area regarding curriculum revision designed to ensure competency in writing. Workshops will be offered for non-English faculty to improve instruction in composition.

Budget Requested: $8,809 Budget Awarded: $8,829
John A. Galm

@SAN-JOSE GALM CHAIRPERSON ENGLISH WRITING INTERDISCIPLINARY
@WORKSHOP SURVEY FACULTY-DEVELOPMENT CSUC CSUC-1 1976
@FUNDS-008829

APPENDIX C

MINI-GRANTS 1975-76

BAKERSFIELD

Creation of Instructional Data Files
Survey and Evaluation of Student Opinions Concerning Traditional and Innovative Instructional Strategies
A Self-Paced Lower-Division Course on Analytical Instrumentation
A Simulation Model for History 101 (Case Studies in the Historical Method)

CHICO

Development of Multiuse Laboratory Research Materials for Plant Science
Mediation and Modularization of Selected Science Courses for Ultimate Use in Non-traditional Liberal Studies Program
Senior Day at CSU, Chico: Developing the Gerontological Program
Preparing Slide-Tape Modules of Organic Chemistry Experiments
Computer Slide Project
Regional Television Learning Center
August Information Gathering Tour
General Physics Pre-test
Individualized Instruction in Composition

DOMINGUEZ HILLS

Coastal Land Use Simulation Game
Audiovisual Applications in Microbiology
Afterschool Interdisciplinary Laboratory Project
Field Studies Using Video-Sociology
Individualized Instruction Modules: Basic Concepts in Philosophy

FRESNO

Multi-Media Modules for Early Childhood Education
Development of Spanish Language Cassette Tapes for Training and Conferencing with Parents of Children with Communicative Disorders
The Fireside Chats: Examples of Effective Persuasion
Freedom and Authority – An Interdisciplinary, General Education Program
Preparation of Special Education Supervisors and Administrators
Dance Theatre Company (Portable Dance Troupe)
Innovations in Asian-American Studies

FULLERTON

Sociology and the Library – An Interaction
A-T Program for Statistics of Rigid Bodies
Teaching Skills for College Instructors
Career and Personal Exploration – A Model Course for Liberal Arts Majors
Student Survival Skills: A Self-Instructional Resource Package
Role Playing the American Revolution
Visual Instruction in Anthropology
10 Sound on Slide Sets for Art 412: History of 20th Century Art
Audiotutorial Modules for Environmental Evaluation and Protection
The Environmental Impact of the Baja 1 Highway
Effects of Biofeedback and Relaxation Training on Test Anxiety and Examination Performance
Audio-visual Self-paced Tutorial Program for General Chemistry
Mini-Grant for Laboratory Techniques as Applicable for Nutrition in Anthropology

HAYWARD

Continued Implementation of Modular (Self-Paced) Learning in Baccalaureate Nursing

Preparation of Self Guided Field Trips for Environmental Studies, Geography, and Geology Students

Multimedia Three Screen Educational Slide Shows

Film Introductions to Some Basic Library Reference Tools

Video Cassette Library of Cases and Methods in Speech Pathology

Autotutorial Minicourses – Functional Human Anatomy

HUMBOLDT

Innovative Pilot Project for Instruction in the Bases of Statistical Reasoning

Self-Paced, PSI Method Experiment for Teaching the Business Administration Introductory Accounting Courses (BA71, A, B, C, and BA171)

Production and Use of Short TV Tapes in Biology

Empirical Research in Communication – A Self Paced Approach

Developing Self-Guided Walks for Botany 1

LONG BEACH

Clinical Auditory Masking: A Programmed Instruction Module

A Proposal for the Development of Arts Administration and Management (AAM)

Development of Simulated Clinical Situations for Teaching and Testing Clinical Judgments of Nurse Practitioner Students

The Development of a Program for Training Students to Effectively Counsel in a Multi-Cultural Bilingual Educational Setting

Instructional Modules in Physical Geography

To Develop a Self-Paced Program in Personality Development

Faculty Workshops in Electron Microscopy

Testing the Validity and Reliability of the Illinois Test of Psycholinguistic Abilities, at the Five Year Old Level: Monograph I

LOS ANGELES

Workshop for Staff Development in Dietetics

Self-Teaching Programmed Instruction Lesson Reinforcements for Business Information Systems

Self-Paced Learning Modules for Machine Tool Technology

Business Information Systems Question Bank Development for SOCRATES System

Accounting and Business Information Systems Data Bank Development/Marketing

Self-Teaching Modules for the Geological Sciences

Use of Video Equipment in Interdisciplinary Instruction

Home Economists in Business – A Survey via Videotape

NORTHRIDGE

Interdisciplinary Theory Program

African American Image in Feature Films

Writing Skills for Minority Students

The Visual Experience

Real Time Teaching Center for Computer Science 130

An Aide Training Program in a College Clinic Setting

Professional Practice Course in Applied Geography

Pilot Program for the Improvement of Conversation and Comprehension Skills of Non Native-Speaking Foreign Language Students

Mobile Multi-Image Audiovisual Facility

Esthetic Education (Sensory Awareness)

Seminar in Oral History

Developing Syllabus for Individualized Instruction in "Introduction to Modern Grammar"

POMONA

Student-Teacher Integrator Project
Organic Chemistry Tailored to the Student's Major
Microelectronics Lecture/Lab Module
Computer Assisted Undergraduate Economic Education
TV Production of Historical Events
The Design and Production of Instructional Models for Mathematics
A Project to Develop and Evaluate the Effectiveness of a Systems Approach to Measurements in Physics Laboratories

SACRAMENTO

Refinement and Evaluation of the Junior-Level Examination in English Composition
Integration of Career Development with Curriculum and Continuing Education
Nonverbal Communication
Capital Experience Program
Instructionally Related Television Tapes for Teaching in Kinesiology

SAN BERNARDINO

A Band for All Seasons
Evaluation of Student Teacher Performances Through Video-Tapes
Multi Image System for Instruction
Preparation of Problem Sets for Quantitative Analysis in Management
Computer Assisted Math
Faculty Videotape Self-Study Group
An Interdisciplinary Approach to Counselor Education
The Recreation of the Surrealist Exhibition of January 1938
Experiential Exercises for Teaching Human Behavior
Interactive Computer Assisted Instruction for Organizational Behavior Classes
Basic Reading Methods
Individualizing Instruction in German
Consultants Participating in Public Policy
French Phonetics Through Audio-visual

SAN DIEGO

Application of Technology to Skill Training
Increased Systemization of Instruction of Speech Communication 3
Restructuring of Biology 110, General Ecology, for Improved Content and Teaching Efficiency
Project for Development of Objective Course Evaluation Techniques
Faculty-Student-Community Project in American Indian Languages: New Materials for New Studies
Planning and Experimentation Designed to Initiate Interdisciplinary Community Health Instruction
Development of a Physics Department Exploratorium

SAN FRANCISCO

Curriculum Development in the Psychology of Motivation
Choreography of "Scenes of Men and Women"
Development of Microbiological Visual Aids for Laboratory Instruction
Videotaping of Social Science 300.03 (Fall 1975-76) "Science in the Study of Man"
Coordination of Field Service Placements in the Psychology Department
Development of Tutorial Instruction in Laboratory Instrumentation and Procedures
"[illegible]cal Systems" or "Magic and Ritual in Art"
Designing and Developing a Precalculus Test
Poets Up Close
Integrated Course in Physics and Applied Mathematics
San Francisco State University Library Resources
Evaluation of Introductory Economics Course
Macromolecules of Significance in Genetics and Medicine
Photographic Manual for Medical Mycology
SOCRATES – Instructional Program

SAN JOSE

Developing and Applying Computer Simulation in Bus. 130, 160, 167 and 169
Student Self-Rating of Videotapes During Senior Laboratory Class
Planning Problems in Metropolitan Development
Chemical Corrosion and Degradation of Materials
Film on Systems Approach and Team Action
Hand Calculator in Numerical Analysis Course
Career Alternatives for Educators
Liaison System for Freshman Composition Laboratory

SAN LUIS OBISPO

Cross-Cultural Perspective Educational Experience of Cal Poly San Luis Obispo Students in Community Tutoring
The Establishment of an Instructional Pedolarium from Selected California Soils
The "San-San" Gap: Land Use Changes Along California's Rural Central Coast
Development of the Piano: Actions – Teaching Aids
Application of Minicomputers to Solving Problems in Real Time
APEX – Cal Poly
Termination Phase of Individualized Large-Group Instruction
Installation and Start-up of a Small-Scale Methane Digester Gas Test Facility
Theme/Major-Oriented Writing Program

SONOMA

Evaluation of an Oral History Program
Sonoma Film Institute
Art and History
Interdisciplinary Science Modules
Black-Jack, Italian Jokes and Chemistry
Academic Aids
Auto-Tutorial Project for Beginning Biology
Publication Workshop – Magazine Publishing
Self-Paced College Algebra and Trigonometry Course
Design and Implementation of a Local Community Data Base for The River Basin Model
Cognitive Mapping
Slide-Tape Lectures for a Mastery-Oriented Module System

STANISLAUS

Workshop in Early Music Performance Practices
Project to Develop a Human Performance and Fitness Assessment Capability
Model Stage and Scale Lighting Instruments
Cultural Resources Center – Cultural Resource Materials Project
Chemistry Learning Center
Guten Tag Film Series
Development of an Arms Control Seminar (Discipline: Political Science)
Improvement of Library Instruction
Self-Paced Instruction in Business Finance

MINI-GRANTS 1976-77

BAKERSFIELD

The Television Course: Perspectives in Economics
Group Counseling: Preventative and Developmental Activities
BPA 100 Topic Area Translations
Classroom Use of Film as Multidisciplinary Evidence on Political Development

CHICO

Development of Library of Lectures Demonstrations
Redesign of Introductory Management Course
Audio-Visual Materials for a Genetic Counseling
Computer Program for Holdings in CSU, Chico Vertebrate Museum
Production of Slides for Autotutorial Course in Plant and Soil Sciences
Workshop for the Hispanic Arts
Film on Amino Acid Elongation in Protein Synthesis
Use of Pocket Calculators in Teaching Concepts of Elementary School Mathematics
Revision of Curriculum of Geography 114 to Include Computer Timeshare Programs
Development of Course in Medieval Engineering
Simulated Managerial Decision Model in Statistics
Development of Autotutorial Methods in Chemistry 51
Examination, Selection, and Assembly of Materials for Courses Involving Aerial Photography and Remote Sensing

DOMINGUEZ HILLS

Preparing Video Tapes and Class Notes in Support of a Statistics Course
An Integral "Programmed" Approach to Economics and Business Quantitative Analyses
Development and Evaluation of a Self-Paced Enriched Basic Studies Psychology Course
Local Support for SOCRATES Computer Assisted Test Construction

FRESNO

Design and Fabrication of Classroom Teaching Aids for Basic Engineering Science Courses
Economics in the Third Dimension
Project for Educational Improvement
Institutes for Experiential Learning
Modules for Beginning Nursing Students
A Proposal for the Development of Audio-Visual Materials for Self-Paced Study of Basic Concepts in Economics
Instructional Modules for Chemical Instrumentation
Dance Performing Company
In-Service Training Folio
Development of Spanish Language Cassette Tapes for Training Audiology (Communicative Disorders) Students in Conferencing with Parents of Children with Hearing Impairments
Instructional Modules for the Integration of Developing States of Syntactical Patterns of Children with Normal Language and with Language Disorders
An Operational Probability Sampling Plan for Student Evaluation of Faculty
The Development of a Slide Series Demonstrating Syndromes Associated with Deafness
Proposal to Establish a Poetry Course in Spring Semester 1977 Involving a Number of Nationally Known Guest Poets (Course Title: Contemporary Poets)
Cost Effectiveness of a Computer-Assisted Learning Module for a Mini-Computer System
Videotaping of Opera Rehearsals and Performances

FULLERTON

Man-Machine Simulations for SPCOM 100
Innovation in Mass Communications Law Instruction
A Comparison of Freshmen Reading Levels and the Readability of Their Textual Material
Piano Sight Reading
Development of a Pilot for a Video Tape Series on Metalworking Techniques
Instructional Materials to Improve Delivery Processes & Resource
Proportional Thinking and Logical Reasoning as Exhibited by Prospective Mathematics Teachers
Legal Research Methods: Integrating Materials Which are Presently Scattered into a Cohesive Learning Package
Investigations of Multi-Media Approaches in Educational Testing/Reading
Phonetics Archive
A New Approach to Teaching Plant Anatomy

HAYWARD

New Course "The Experience of Art and Music"
Modularized Mastery Learning in Intermediate Algebra
Use of Mathematics Laboratory as a Supplement to Classroom Instruction of the Three-Quarter Calculus Sequence for Science Students
Tutorial Programs in Physics

HUMBOLDT

Preventive Medical Care
Demonstration Devices for Meteorology and Physics
Innovative Pilot Project for Instruction in Speech Communication 6 (Small Group Discussion)
Introduction to Woody Plant Identification
Videotaping Experiments in Neurosciences
CAI in Political Science

LONG BEACH

The Development of Amphibian Culture Facility
"The Medieval World"
Development of A Lecture-Laboratory Course in Physics for Bioscience Students
Visiting Artist/Master Printmaker (Black Dolphin Workshop)
To Develop a Musicology Program
Development of Individualized Modular Learning for N357 Life Cycle II
Instructional Modules for Physical Geography – Simulated Field Trip Experiences

LOS ANGELES

Alternatives for Observation/Participation (Elem. Ed)
Interpersonal Relations Videorecordings
Reduction of Repetitious Student Advisement Chores and Errors by Using Carefully Prepared Sound Films
Computer Applications in Chemistry Instruction
Instructional Computer Programs in Chemistry
Development of Classroom Television and Autotutorial Videotape Modules for Expanding the Use of CSULA Computer Facilities

NORTHRIDGE

Interdisciplinary Theory Program
Innovative Teaching of Computer Science 130 – Introduction to Computing
Attacking Economic Illiteracy by Improving Economic Instruction at the University Level
Faculty Seminars in Student Writing Problems
Faculty Seminar for Teacher Preparation in a Multicultural-Multilingual Classroom

Operation of the Scanning Electron Microscope
An Investigation of Dynamics of Creation in Advanced Narrative
Audiovisual Lab for Introductory Physical Geography
Research in Action
Innovative Techniques for Instruction in the First Course in Technical Theatre
The Learning Resource Center's Interim Workshop in Basic Skills

POMONA

Plant Materials Handbook
Construction Handbook
Development of Multi-Disciplinary Reading Materials and Methods Based on Linguistic Theory
The Implementation of Digital Electronics Measurement Systems in Physics Laboratories
Language Skills: Testimony from the "Real World"

SACRAMENTO

Mediated Instructional Program for Environmental Pollution Control
Grantsmanship in the Human Services
"Inter-Class Simulations as a Means of Demonstrating Relationships Among Individual History Classes"
Great Ideas of Western Culture: Images of Love
Increase in Instructional Unity in History 107 through Audiovisual Modules

SAN BERNARDINO

Original Research in Biochemistry in the Undergraduate Molecular Biology Laboratory
A Computerized Bibliographic Data Bank on American Ethnic Groups
A New Approach to Teaching Introductory Economics
Evaluation and Improvement of a Personalized Self-Instruction Test Battery Used in Teaching Introductory Psychology
Audiotutorial Approach to Teaching Statistics 215
A Learning Package Titled "Development of Soviet Strategic Thought and Strategic Weapons Systems in the Nuclear Age"
The Use of Filmstrips in Teaching Secondary School

SAN DIEGO

Curriculum Model for the Training of Community College Part-time Faculty
Designing Effective Learning-Teaching Approaches (DELTA)
Creation of a Two-Semester American Institutions Sequence Within a PSI Framework
An Evaluation of the Systematized Basic Skills, Oral Communication Course

SAN FRANCISCO

Student Experiments in Mutagenesis
Field Research and Resource Center
A Proposal for the Development of a Business Writing Achievement Test
Study of Cantonese Language Variations
A Proposal for a Small Grant to Develop a System for Collecting and Processing Information About Our Premedical Students and Their Applications to Medical School
Records of Performances of Ethnic Classes
Video Feedback Therapy Instructional Materials
The School Health Program: An Audiovisual Presentation

SAN JOSE

Small Business Consulting
Learning Modules for Asian Studies
A Statistical Comparison of Methods of Evaluating Student Learning in Audio-Tutorial Systems
Correlation Analysis of Solar Insolation, Air Temperature, and Performance of a Flat Plate Solar Energy Collector

Porch Index of Communicative Abilities in Children: A Training Seminar
Participation in Consortium for International Education
CAI Package for the PDP 11/45
The Use of Microcomputers for the Teaching of Comparative Computer Architecture
Diagnostic and Evaluative Testing and Curriculum Development for Intensive Mini-courses in Selected Fundamentals of Writing
Planning for Creative Ideation as a Multi-disciplinary Presentation, Integrating the Work of Eight Faculty Members
Production of an Instructional Film Entitled "Plant Breeding Techniques for Alfalfa"
Study of Queue Disciplines by Simulation Techniques

SONOMA

Solar Energy, Alternative Energy Center
Design & Implementation of a Local Community Data Base for the River Basin Model: Phase II
The Undergraduate Program in Historic Preservation: A Guide, the Photo Archive, and Exhibitions
Latin American Semester
Development of a Course – Experiencing Scientific Revolutions
Articulation of a Mastery-Oriented Module System for Teaching Statistics & Experimental Design with Other Classes
Writing Awareness Counselor
Media Studies – Publications

STANISLAUS

Interactive Computer Programs for Quantitative Analysis
Audiovisual Learning Modules for Astronomy
Development of an Experiential Approach to Introductory Sociology
An Alternative to Traditional Modes of Teaching Sociological Research Methods
Personalized System of Instruction in Business Finance
Creative Writing, the Curriculum and the Community

APPENDIX D

PUBLICATIONS OF NEW PROGRAM DEVELOPMENT AND EVALUATION
1972 – 1977

MONOGRAPHS

Attitudes Toward Instructional Methods at CSC Bakersfield by Mary J. Allen and David C. Cohen, 1976.

Audio-Tutorial in Art History by Kathleen Cohen, 1976.

The Challenge of Creative Change by John M. Smart and Toni A. Howard, 1975.

Comparison and Contrast, The California State University and Colleges Freshman English Equivalency Examination by Edward M. White, 1973, 1974, 1975, 1976.

Computing in the Business Curriculum by CSUC Division of Information Systems, 1974.

Credit by Examination in Mathematical Physics by M. N. Moore, Robert T. Park and T.P. Lin, 1976.

Entering Freshmen: Their Specific Education, Proceedings of a Joint Conference, Michael Hoffman and John M. Smart, eds., 1977 (Published by the University of California).

Evaluation of Projects for Planned Change: A First Report to the Carnegie Corporation of New York by Ronald Shinn, 1972.

An Experimental and Evaluative Approach to Teaching Basic Writing Skills by Shirley Ann Rush and Suzette Elgin, 1977.

Faculty Awards Program: Campus-Based and Systemwide by Charles Adams, 1977 (Center for Professional Development).

Faculty Motivation: Working Papers and Review of the Literature by the Wright Institute, 1976 (Center for Professional Development).

Instructional Efficiency Through Message Design by Patrick O. Marsh, 1975.

Implementation of Pilot Projects for Planned Change, Phase I, 1972-73 by Willard Spalding, 1973.

The Meaning of the Baccalaureate, Toni A. Howard, ed., 1973.

Personally Adjusted College Education by Ray Geigle and Thomas Watts, 1977.

Prediction, Performance and Promise. . . Time Shortened Degree Programs, John M. Smart and Toni A. Howard, eds., 1976.

Program for Innovation – The First Two Years by John M. Smart, 1973.

Pilot Projects for Implementation of Planned Change in a System of Public Higher Education, 1971.

Project Overlay, an Experiment . . . Between the College and the High School by R. H. Ringis, 1975.

The Relationship Between Instructor Ratings and Learning: Some Extensions by Mildred Massey, 1975.

A Report of the 1972. . .Research Project on the College Level Examination Program General Examinations. . . by Melvin Angell and Roger Bailey, 1972.

Reliability and Credit by Examination: An Analysis of a Modified CLEP Subject Examination in Money and Banking by John A. Menefee and Frank Falero, Jr., 1976.

Specific to General: Mini Courses and General Education by Julian F.S. Foster, 1975.

OCCASIONAL PAPERS

"Change Agent in a Multicampus System" by David H. Provost.

"Cooperative Education: A Perspective" by Bernard L. Hyink, 1976.

"Evaluating Innovation," John M. Smart, ed.

"Self-Paced Learning: A Perspective," John M. Smart, ed.

"Toward Planned Change" by David H. Provost and John M. Smart.

CONTINUING PUBLICATIONS

Future Talk, Linda Bunnell Jones, ed.

APPENDIX E

THE SELECTION PROCEDURE OF THE SIX CAMPUSES TO RECEIVE INITIAL SUPPORT (1974-77) THROUGH THE CENTER FOR PROFESSIONAL DEVELOPMENT

At its first meeting (July 18, 1974) the Policy Board established the criteria which were to be used in the selection of participating institutions. Responsibility for the selection of the campuses was delegated to the Steering Committee. The criteria were:

> As a group, participating institutions will possess a diversity of characteristics in terms of institutional resources and problems related to the size of the campus; human and material resources surrounding the institution; degree of experience with faculty development programs; and geographic distribution across the state.
>
> Preference will be given those institutions seeking to address problems shared by others in the system rather than those which focus on problems which are unique to their campus.
>
> Participating institutions must demonstrate commitment to the proposed plan for faculty development in terms of faculty and administrative support, personnel, and budget.

A call for proposals was sent to the President of each campus in August 1974. The call contained information necessary for campuses to prepare proposals to work with the Center, including the criteria specified above for the selection of institutions, campus commitment expected, and the submission date.

A series of regional meetings for campus representatives, faculty members, and administrators interested in faculty development were held during the week of September 16-20, 1974. The specific purposes of these meetings were to: provide information about the Center; discuss alternative types of faculty development programs which are currently in operation in colleges and universities throughout the country; help campuses prepare their own faculty development or teaching improvement plans; and help interested campuses prepare proposals.

Throughout these meetings it was stressed that campuses should focus on the preparation of campus plans for the development of their faculty rather than on the preparation of proposals to the Center. This position was taken largely to encourage all of the campuses to implement their own programs, but it also served to encourage individuals to examine the needs of their own faculty and to locate campus resources for these efforts. Representatives from some of the campuses subsequently indicated that they intended to proceed with their plans even if they were not chosen for Center support by the Steering Committee.

Thirteen proposals were received from the CSUC campuses. When the proposals arrived, the cover page was removed, and each was assigned a code number. This procedure was employed so that the proposals sent to each member of the Steering Committee could be read and evaluated without bias. The Steering Committee met in October, and after preliminary discussions of the project, each proposal was identified by campus and discussed by the group. Six proposals representing a diversity of programs, geographical distribution, and prior experience with faculty development were selected. These campuses were recommended for funding, subject to the clarification and negotiation with the Center staff of various points, particularly institutional and faculty support and budget.

Each of the six recommended campuses was visited. Discussions with the key persons involved in the planning and implementation of the programs were held. These discussions focused on three main points: the nature and extent of faculty involvement in the preparation of the proposal and their support for the proposed program, various issues concerning the program, and the precise fiscal commitments and contributions of both the campus and the Center. Letters from the chairperson of the local faculty senate indicating faculty support and from a central administrator indicating fiscal support were requested at each visit. In all cases, satisfactory agreements were concluded with each of the six campuses: Bakersfield, Chico, Fresno, Northridge, San Bernardino, and San Jose.

APPENDIX F

Executive Order No.: 271

Title: Systemwide Credit by Evaluation Policy
Executive Order No. 271

Effective Date: May 2, 1977

Supersedes: Executive Order No. 203

This Executive Order is issued pursuant to Sections 22600 and 23605 of the Education Code and Chapter III, Sections 1 and 2 of the Standing Orders of the Board of Trustees of The California State University and Colleges and is effective May 2, 1977.

1. The following College Level Examination Program (CLEP) examinations shall be acceptable at any campus of The California State University and Colleges for the amount of credit indicated, subject to achievement of scores indicated and to the conditions set forth in this Executive Order.

EXAMINATION	PASSING SCORE	CREDIT*
Mathematics General Exam (1975 edition) (Note: passing score must be earned on both parts of examination)	50	3 semester units
College Algebra – Trigonometry	49	3 semester units
Calculus and Analytic Geometry (including essay)	48	3 semester units
Statistics (including essay)	49	3 semester units
General Chemistry	48	3 semester units

2. Students passing Advance Placement Program examinations with scores of 3, 4 or 5 will receive six semester units of credit.*

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*Quarter system campus may award an equivalent in terms of the standard course value at that campus. Thus a 6 semester unit exam might result in the award of credit in the amount of 8, 9, or 10 quarter units. For admission purposes the standard unit values shall be utilized to assure uniformity in eligibility determination.

3. Students who pass the American Chemistry Society Cooperative Examination in General Chemistry (most recent edition) at or above the 50th percentile will receive 3 semester units of credit.*

4. Students passing the CSUC English Equivalency Examination during the 1972-73 college year and any subsequent college years in which it is administered shall be awarded six semester units of credit.*

5. Subject to the provisions of Part 10 below, the Vice Chancellor for Academic Affairs may designate examinations in addition to those listed herein for which credit by evaluation will be awarded pursuant to this Executive Order. Upon designating any such examination, the Vice Chancellor for Academic Affairs shall establish a passing score for the examination and shall specify the amount of credit to be awarded.

6. The award of credit by evaluation to students passing any examination listed in this Executive Order or any examination designated by the Vice Chancellor for Academic Affairs pursuant to Part 5 of this Executive Order shall be subject to the following conditions.

   a. Credit shall not be awarded for successful passage of any examination if the student has taken that examination previously within the past calendar year.

   b. Credit shall not be awarded when equivalent degree credit has been granted for regular course work, credit by evaluation or other instructional processes, such as correspondence study or military training.

   c. Credit shall not be awarded when credit has been granted for previous course work or for an examination more advanced than the level represented by the examination in question.

   d. Care shall be taken not to award duplicate credit due to overlapping tests, college level courses, or both. Where there is partial overlap, the amount of examination credit shall be prorated.

   e. The total amount of credit earned on the basis of externally developed tests which may be applied to a baccalaureate degree shall not exceed 30 semester units except that Advanced Placement Examination credit is excluded from the limit.

7. The determination of specific course equivalencies and program applicability for credit earned by externally developed examination is the responsibility of the campus where the student enrolls. Recommendations of two Systemwide Committees for those mathematics and chemistry examinations which are being adopted for systemwide use are attached as Attachment A. These may be helpful in the development of campus policy. Additional recommendations may be issued from time to time.

8. There shall be a standing Advisory Committee on Credit-by-Evaluation. Appointments to the Committee shall be made by the Chancellor. Membership shall include: an academic vice president, a director of admissions, four teaching faculty recommended by the Chairman of

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*Quarter system campus may award an equivalent in terms of the standard course value at that campus. Thus a 6 semester unit exam might result in the award of credit in the amount of 8, 9, or 10 quarter units. For admission purposes the standard unit values shall be utilized to assure uniformity in eligibility determination.

the Statewide Academic Senate, the director of the Consortium (or his designee), the State University Dean of New Program Development and Evaluation (or his designee), and the State University Dean of Educational Programs and Resources (or his designee). The duties of the Advisory Committee shall include the following:

a. Conduct an annual review of systemwide credit by evaluation policies and recommend revision to the Chancellor.

b. Identify external examinations which should be reviewed and evaluated for possible systemwide adoption and recommend subject matter faculty and testing experts for appointment to review subcommittees to be established by the Chancellor in consultation with the Chairman of the Statewide Academic Senate.

c. Develop procedures for the conduct of such reviews and oversee the activities of review subcommittees.

d. Recommend standards for granting credit on a systemwide basis for any external or system developed examination proposed for use in The California State University and Colleges.

e. Advise in connection with the conduct of pilot and experimental programs involving new credit by evaluation activities.

9. The Division of New Program Development and Evaluation shall be responsible for the coordination of systemwide credit by evaluation activities including the provision of staff support to the Advisory Committee.

10. From time to time experimental test administrations may be undertaken on a systemwide basis. Whether such tests are system developed or externally developed, decisions concerning the award of credit shall not be made until there has been consultation with the Advisory Committee and the Academic Senate, The California State University and Colleges, and until the proposal has been reviewed by the Chancellor's Council of Presidents. To assure the college level content equivalency of externally designed or administered tests, all such tests shall be reviewed and recommended by systemwide faculty subcommittees, as provided for in Part 8 above, prior to their adoption on a systemwide basis.

Glenn S. Dumke, Chancellor

Date: May 2, 1977

ATTACHMENT A

RECOMMENDATIONS FOR COURSE EQUIVALENCIES AND APPLICABILITY FOR CLEP EXAMINATIONS ADOPTED FOR SYSTEMWIDE USE.

CLEP GENERAL EXAMINATION IN MATHEMATICS (3): General Education Credit in the basic subjects area.

CLEP COLLEGE ALGEBRA – TRIGONOMETRY (3): A traditional precalculus course.

CLEP CALCULUS WITH ANALYTIC GEOMETRY, INCLUDING ESSAY (3): The first term of a course normally offered for students majoring in fields other than mathematics or natural science.

CLEP STATISTICS INCLUDING ESSAY (3): An elementary precalculus probability and statistics course.

CLEP GENERAL CHEMISTRY AND ACS GENERAL CHEMISTRY (3): General Education Credit in the natural science area, no laboratory credit.

All recommendations are for tests in their most recent editions. New editions are, however, subject to review, and policy on these new editions is subject to change.

APPENDIX G

CAMPUS COORDINATORS, 1972-1977

At the outset of the Program, in spring 1972, campuses were asked to designate coordinators for innovative projects. These coordinators initially were responsible primarily for assisting faculty to apply for funds. More recently, they have assumed additional responsibilities for staffing the campus mini-grant programs, and in some instances local campus innovative programs including faculty development.

BAKERSFIELD		
	Thomas M. Watts Dean of the School of Behavioral Sciences	1972-73, 1975-
	John R. Coash Dean of the School of Natural Sciences and Mathematics	1973-75
CHICO		
	Phyllis I. Bush Associate Vice President for Academic Affairs, Instructional Services	1972-1976
	Charles Adams Coordinator of Professional Development	1976-
DOMINGUEZ HILLS		
	Robert M. Bersi Dean of Innovative Programs and Institutional Development	1972-1975
	Rhody H. Ringis Dean of Programs and Priorities	1976-
FRESNO		
	Harold L. Best Director of Institutional Research	1972-73, 1976-
	Lillian Faderman Assistant Vice President for Academic Affairs	1973-1976
FULLERTON		
	Wayne W. Untereiner Associate Vice President, Academic Services & Planning	1972-73
	James D. Young Associate Vice President, Academic Programs	1973-

HAYWARD	Leigh Mintz Dean of Instruction	1972-
HUMBOLDT	Robert E. Dickerson Chairman, Division of Interdisciplinary Studies and Special Programs	1972-75
	Peter Coyne Chairman, Division of Interdisciplinary Studies and Special Programs	1975-76
	Janice M. Erskine Chairman, Division of Interdisciplinary Studies and Special Programs	1976-
LONG BEACH	Jan Nevin Assistant to the Vice President for Academic Affairs	1972-76
	Donna Boutelle Associate Vice President for Academic Affairs, Academic Programs and Services	1976-77
LOS ANGELES	John Tomaske Associate Dean of Academic Planning, Graduate Studies and Research	1972-75
	Thomas Graham Dean of Continuing Education and Innovative Programs	1975-76
	Gaby Stuart Associate Dean of Academic Planning	1975-
NORTHRIDGE	David Benson Dean of the University	1972-73
	Harry Finestone Dean of Academic Planning	1973-
POMONA	Robert Maurer Dean of Graduate Studies	1972-76
	Harold F. Wells Acting Dean of Graduate Studies and Research	1976-
SACRAMENTO	Emmett C. Thompson Dean of Graduate Studies	1972-76
	Kenneth E. Miller Dean of Graduate Studies	1976-

SAN BERNARDINO		
	Robert Senour Director of Audiovisual Services	1972-1974
	Florence Weiser Assistant Dean of Academic Administration	1974-
SAN DIEGO		
	Deane Branstetter Acting Dean of Undergraduate Studies	1972-73
	Shirley Anne Rush Assistant to the Vice President, Academic Affairs	1973-
SAN FRANCISCO		
	Harold L. Einhorn Associate Vice President of Academic Affairs	1972-75
	Urban Whitaker Dean, Undergraduate Studies	1975-76
	Richard Giardina Associate Provost	1976-
SAN JOSE		
	Ted W. Benedict Dean of Academic Planning	1972-73
	Ronald J. McBeath Director, Instructional Resources	1973-
SAN LUIS OBISPO		
	Howard Burroughs Associate Dean of Graduate Studies & Research	1972-75
	David Grant Associate Dean, Academic Planning	1975-
SONOMA		
	Yvette Fallandy Dean of Academic Planning	1972-75
	Don Patterson Acting Dean of Academic Planning	1975-
STANISLAUS		
	Hobart Hamilton Associate Vice President, Academic Affairs	1973-76
	Joan D. Steele Office of Vice President for Academic Affairs	1976-

APPENDIX H

EMPHASIS AREA AND FINAL ALLOCATION
FOR
1976-77

P = Primary Emphasis — Cost Assignment
S = Secondary Emphasis
R = Renewed Funding

Campus/Project Title	Independent Study	Credit By Eval.	Comprehensive Core Examinations	Self-Pacing	Time-Shortened Degrees	Testing Modes of Instruction	Mediated Instruction Emphasis	Faculty Development	Dissemination of Innovations	Reduction of Attrition	New Use of Time & Facilities	Improvement of Efficiency
SINGLE CAMPUS												
BAKERSFIELD												
A Program in Basic Skills Instruction						16,622 P		S				
CHICO												
Public Administration Internship Composition Lab						4,157 R						
DOMINGUEZ HILLS												
Survey Research, Program of Life Studies						S					3,010 P	
FRESNO												
Internships for Minors in Gerontology						6,247 P					S	
Integrated Approach to College Composition						S				S	10,294 P	
FULLERTON												
Audio Visual Tutorials in General Education Science						S	10,480 P				S	
Reading and Thinking Skills						16,761 P				S		

APPENDIX H

EMPHASIS AREA AND FINAL ALLOCATION
FOR
1976-77

P = Primary Emphasis – Cost Assignment
S = Secondary Emphasis
R = Renewed Funding

Campus/Project Title	Independent Study	Credit By Eval.	Comprehensive Core Examinations	Self-Pacing	Time-Shortened Degrees	Testing Modes of Instruction	Mediated Instruction Emphasis	Faculty Development	Dissemination of Innovations	Reduction of Attrition	New Use of Time & Facilities	Improvement of Efficiency
HAYWARD												
Audio-Tutorial in International Relations						S	15,460 P					
HUMBOLDT												
Comprehensive Student Writing Skills Program						20,717 R				S	P	
Basic Math Skills – Teacher Education				S		12,857 P				S		
LONG BEACH												
Folklife Centers						S	S				14,143 R	
LOS ANGELES												
Basic Skills in Writing for Bilingual Students				S			10,600 R			S	S	
Capstone Course in Office Simulation			S			S					15,389 P	
University Honors Program						7,176 R						
NORTHRDIGE												
Computer-Based, Self-Paced Instruction in English Composition				12,873 P		S	S			S		
Urban Anthropology Internship							S				15,837 P	

APPENDIX H

EMPHASIS AREA AND FINAL ALLOCATION
FOR
1976-77

P = Primary Emphasis – Cost Assignment
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Campus/Project Title	Independent Study	Credit By Eval.	Comprehensive Core Examinations	Self-Pacing	Time-Shortened Degrees	Testing Modes of Instruction	Mediated Instruction Emphasis	Faculty Development	Dissemination of Innovations	Reduction of Attrition	New Use of Time & Facilities	Improvement of Efficiency
SACRAMENTO												
Integrated Learning Assistance Center (Mathematics & English)				S		S	S			19,587 P	S	
Solving Logical Problems						6,065 P						
SAN BERNARDINO												
Teaching Counseling Skills via Media				S		S	12,255 P			S		
SAN DIEGO												
Computer Assisted Advising System (Speech Pathology, Audiology, Physical Education and Nursing)											S	20,732 P
SAN FRANCISCO												
Preliminary Study: Grade Inflation										S		3,000 P
Interdisciplinary Curricula (NEXA) Workshop									1,865 P			
SAN JOSE												
University Coordinator – Writing Skills								S				8,829 P
STANISLAUS												
Simulations in International Relations						11,179 P	S					

APPENDIX H

EMPHASIS AREA AND FINAL ALLOCATION
FOR
1976-77

P = Primary Emphasis – Cost Assignment
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R = Renewed Funding

Campus/Project Title	Independent Study	Credit By Eval.	Comprehensive Core Examinations	Self-Pacing	Time-Shortened Degrees	Testing Modes of Instruction	Mediated Instruction Emphasis	Faculty Development	Dissemination of Innovations	Reduction of Attrition	New Use of Time & Facilities	Improvement of Efficiency
SYSTEMWIDE AND INTER-CAMPUS												
Writing Adjunct (Dominguez Hills based)						S			S		56,848 R	
Alternative Approaches to Labor Studies (Dominguez Hills based)											20,816 P	
Installation of CAI Software (Fullerton based)						1,850 P			S		S	
Educational Needs of Reentry Women (Hayward based)											4,965 P	
Latin America Media Project (Los Angeles based)						S	35,080 P					
Faculty Development Workshops (Sacramento based)									1,000 P			
Development of Faculty Skills in Assessment of Experiential Learning (San Francisco based)	S	30,217 P						S				
Experiencing History (Sonoma based)						S	S	S	31,501 P		S	
Workshop for Teaching of Writing (Sonoma based)								2,100 P				

APPENDIX H

EMPHASIS AREA AND FINAL ALLOCATION
FOR
1976-77

P = Primary Emphasis – Cost Assignment
S = Secondary Emphasis
R = Renewed Funding

Campus/Project Title	Independent Study	Credit By Eval.	Comprehensive Core Examinations	Self-Pacing	Time-Shortened Degrees	Testing Modes of Instruction	Mediated Instruction Emphasis	Faculty Development	Dissemination of Innovations	Reduction of Attrition	New Use of Time & Facilities	Improvement of Efficiency
CREDIT BY EVALUATION												
a. Science/Math Exams		26,447 P										
b. CSUC Educational Registry/Advisory Service	S	18,916 P	S									
c. English Equivalency Examination		68,594 P										
d. CSUC Consortium		37,637 P										
FACULTY DEVELOPMENT PROJECTS								104,480 P	S			
A Program to Enhance Intersegmental Cooperation in Innovation								S	20,000 P			
SOCRATES: Computerized Test Item Bank		1,500 P							S			
Composition Projects Evaluation									22,107 P			
Joint Conferences UC/CSUC								S	17,500 P			S
MINI-GRANT PROGRAM (System)	$205,555	147 projects; variety of categories										

APPENDIX H

EMPHASIS AREA AND FINAL ALLOCATION FOR 1975-76

P = Primary Emphasis – Cost Assignment
S = Secondary Emphasis
R = Renewed Funding

Campus/Project Title	Independent Study	Credit By Examination	Comprehensive Core Examinations	Self-Pacing	Time-Shortened Degrees	Testing Modes of Instruction	Mediated Instruction Emphasis	Faculty Development	Dissemination of Innovations	Reduction of Attrition	New Use of Time & Facilities	Improvement of Efficiency
SINGLE CAMPUS												
CHICO												
Public Administration Internship Composition Laboratory						10,062 P						
DOMINGUEZ HILLS												
Basic Skills and Concepts for Basic Chemistry	S			13,327 P		S				S		
FRESNO												
An Integrated Approach to College Level Composition		S				S				S	15,929 P	
Basic Mathematics Skills Program for Women						S				10,705 P		
FULLERTON												
Field Experiments in Chemistry and Physics for Nonscience Students						S				12,180 P		S
Defining the Principles and Concepts in Science to Enhance Student Intellectual Development						8,073 P						

APPENDIX H

EMPHASIS AREA AND FINAL ALLOCATION
FOR
1975-76

P = Primary Emphasis – Cost Assignment
S = Secondary Emphasis
R = Renewed Funding

Campus/Project Title	Independent Study	Credit By Examination	Comprehensive Core Examinations	Self-Pacing	Time-Shortened Degrees	Testing Modes of Instruction	Mediated Instruction Emphasis	Faculty Development	Dissemination of Innovations	Reduction of Attrition	New Use of Time & Facilities	Improvement of Efficiency
HUMBOLDT												
Integrative Communications Skills Program						16,146 P				S	S	
LONG BEACH												
Folklife Center						S	S				15,123 P	
Learning Assistance Center									500 P	S	S	
LOS ANGELES												
Individualized Course: Mathematics				14,276 P			S			S		
Changing Role of Business: Videotapes							8,598 P					
Basic Skills in Writing for Bilingual Students							16,861 P			S	S	
Development of a University General Honors Program						10,141 P						
SAN BERNARDINO												
Interdisciplinary Course in English Composition and Argument and Evidence						12,957 P						

APPENDIX H

EMPHASIS AREA AND FINAL ALLOCATION FOR 1975-76

P = Primary Emphasis – Cost Assignment
S = Secondary Emphasis
R = Reserved Funding

Campus/Project Title	Independent Study	Credit By Examination	Comprehensive Core Examinations	Self-Pacing	Time-Shortened Degrees	Testing Modes of Instruction	Mediated Instruction Emphasis	Faculty Development	Dissemination of Innovations	Reduction of Attrition	New Use of Time & Facilities	Improvem of Efficien
SAN DIEGO												
Computer Program for Advising and Program Planning: Speech Audiology												12,249 P
An Experimental and Evaluative Approach to Teaching Basic Writing Skills						10,594 P						
SAN FRANCISCO												
Long Range Planning Commission								R9,000 P				
SAN JOSE												
Individualized Laboratory for Freshman Composition				18,173 P								
SONOMA												
Interdisciplinary Program in Historic Preservation						15,377 P					S	
SYSTEMWIDE AND INTER-CAMPUS												
Workshops for Developing Self-Learning Materials in Psychology (6 campuses; Bakersfield based)				7,392 P				S				

APPENDIX H

EMPHASIS AREA AND FINAL ALLOCATION
FOR
1975-76

P = Primary Emphasis – Cost Assignment
S = Secondary Emphasis
R = Renewed Funding

Campus/Project Title	Independent Study	Credit By Examination	Comprehensive Core Examinations	Self-Pacing	Time-Shortened Degrees	Testing Modes of Instruction	Mediated Instruction Emphasis	Faculty Development	Dissemination of Innovations	Reduction of Attrition	New Use of Time & Facilities	Improvem of Efficien
Major Assessment Profile: Political Science (10 campuses; San Francisco based)		S	R25,698 P									S
Individualized Instruction Dietetics (3 campuses; San Francisco based)	S			21,688 P			S					
Interdisciplinary Center for Desert Studies (7 campuses; San Bernardino based)											12,328 P	S
Development of Resources for Teaching Writing Skills (6 campuses; San Diego based)				S		S				61,895 P	S	
Computer Assisted Instruction in Botany (System; Humboldt based)	S					8,000 P						
Individualized Program in Mathematics (3 campuses; systemwide workshop; San Diego based)				43,105 P		S			S			S
Project SOCRATES: Development of Computerized Test Banks (System; Dominguez Hills based)	S	R45,545 P	S	S		S			S			S

APPENDIX H

EMPHASIS AREA AND FINAL ALLOCATION
FOR
1975-76

P = Primary Emphasis – Cost Assignment
S = Secondary Emphasis
R = Renewed Funding

Campus/Project Title	Independent Study	Credit By Examination	Comprehensive Core Examinations	Self-Pacing	Time-Shortened Degrees	Testing Modes of Instruction	Mediated Instruction Emphasis	Faculty Development	Dissemination of Innovations	Reduction of Attrition	New Use of Time & Facilities	Improv of Effic
Writing Adjunct Program (6 campuses; Dominguez Hills based)						S			S		59,157 P	
Interdisciplinary Studies for Non Science Majors (4 campuses; San Jose based)						R17,713 P	S		S			
Sacramento Semester: Internship (System; Sacramento based)	S					26,005 P					S	
Individualized Instruction in Nursing (12 campuses; Los Angeles based)					R69,352 P		S	S	S			S
English Equivalency Examination (System)		R63,861 P										S
Credit by Evaluation: Program Development (System)		43,272 P							S			S
Labor Studies: Program Development (San Francisco–Dominguez Hills)											6,500 P	
Experiencing History (System; Long Beach based)									2,000 P			

APPENDIX H

EMPHASIS AREA AND FINAL ALLOCATION
FOR
1975-76

P = Primary Emphasis – Cost Assignment
S = Secondary Emphasis
R = Renewed Funding

Campus/Project Title	Independent Study	Credit By Examination	Comprehensive Core Examinations	Self-Pacing	Time-Shortened Degrees	Testing Modes of Instruction	Mediated Instruction Emphasis	Faculty Development	Dissemination of Innovations	Reduction of Attrition	New Use of Time & Facilities	Improveme of Efficienc
Systemwide Conference on Writing Skills									7,500 P			
Time-Shortened Degree Programs Workshop (5 campuses; Dominguez Hills)									1,100 P			
Workshop for the Teaching of Writing								1,000 P				
Center for Professional Development								R96,876 P				
New Approaches to Assessing Student Knowledge and Skills (CSUC Consortium)	S	88,631 P	S									
MINI-GRANT PROGRAM (System)		$207,000	150 projects; variety of categories									

APPENDIX I

PROJECTS BY DISCIPLINE – 1975-76 & 1976-77

Discipline	1975-76	1976-77
Humanities		
Art	–	–
Literature	–	–
History	–	1
Communications	–	2
English	9	8
Music	–	–
Drama	–	–
Foreign Lang.	1	–
	10	11
Social Sciences		
Psychology	1	1
Economics	–	–
Soc. Sci.	–	–
Geography	–	–
Anthropology	–	1
Political Sci.	2	2
	3	4
Multi-disciplinary	8	9

Discipline	1975-76	1976-77
Science & Math		
Math	3	1
Physics	–	–
Natural Sci.	1	–
Gen'l. Educ. Sci.	3	1
Biology	–	–
Chemistry	1	–
Earth Sci.	–	–
	8	2
Prof. & Occup'l		
Education	–	1
Human Dev.	–	–
Business	1	1
Recreation	–	–
Nursing	1	–
Engineering	–	–
Spec. Educ.	1	1
Accounting	–	–
Home Ec.	1	–
	4	3

Not included: Gerontology (Fresno)